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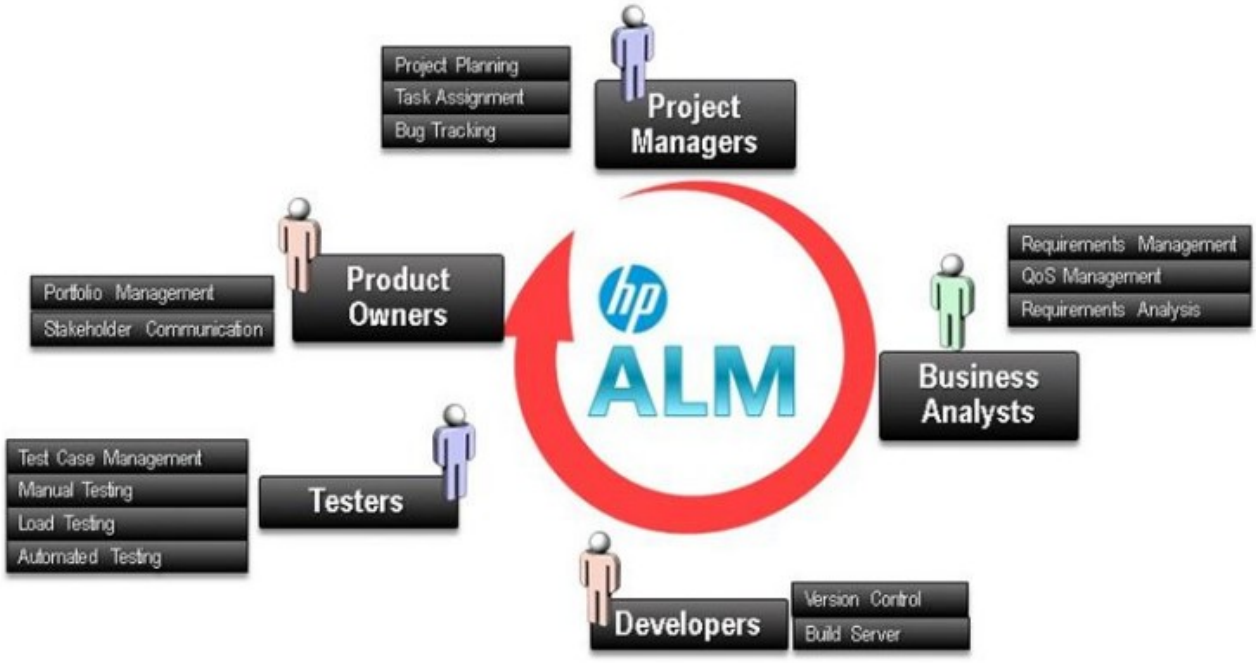
Introduction to HP ALM/ MICROFOCUS

The various stakeholders involved in a typical project are –

- Developer
- Tester
- Business Analysts
- Project Managers
- Product Owners

These stakeholders perform diverse set of activities that need to be communicated to all concerned team members.



ALM evolution

Architecture of QC

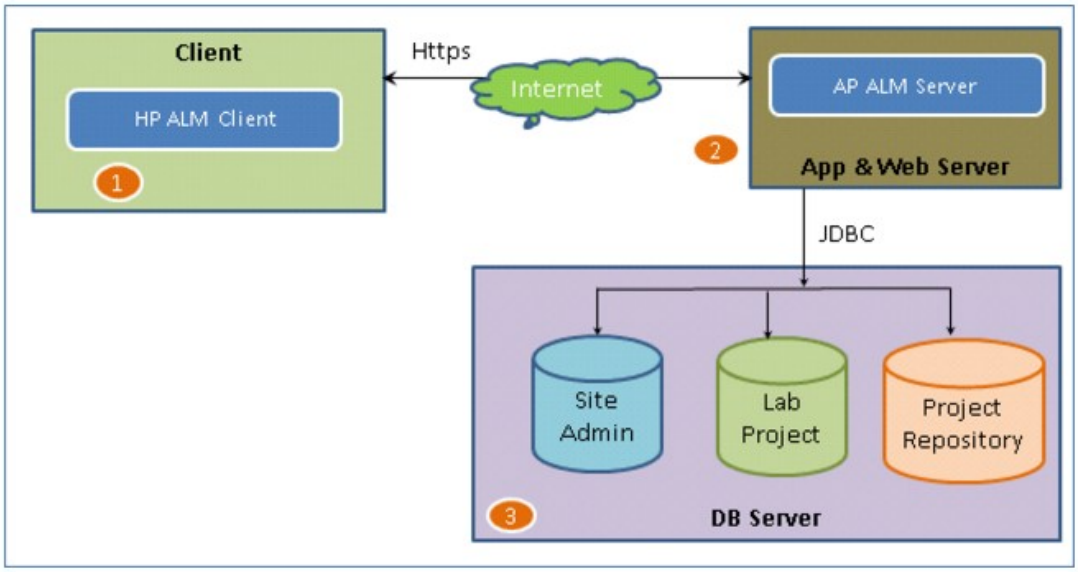
Now let us understand the technology part of HP-ALM. ALM is an enterprise application developed using Java 2 Enterprise Edition (J2EE) that can have MS SQL Server or Oracle as its back end. ALM has 3 components – Client, Application Server and Database Server.

1. **HP ALM client:** when an end user/tester accesses the URL of ALM, the client components are downloaded on the client's system. ALM client components help the user to interact with the server using .NET and COM technologies over a secured connection (HTTPS).

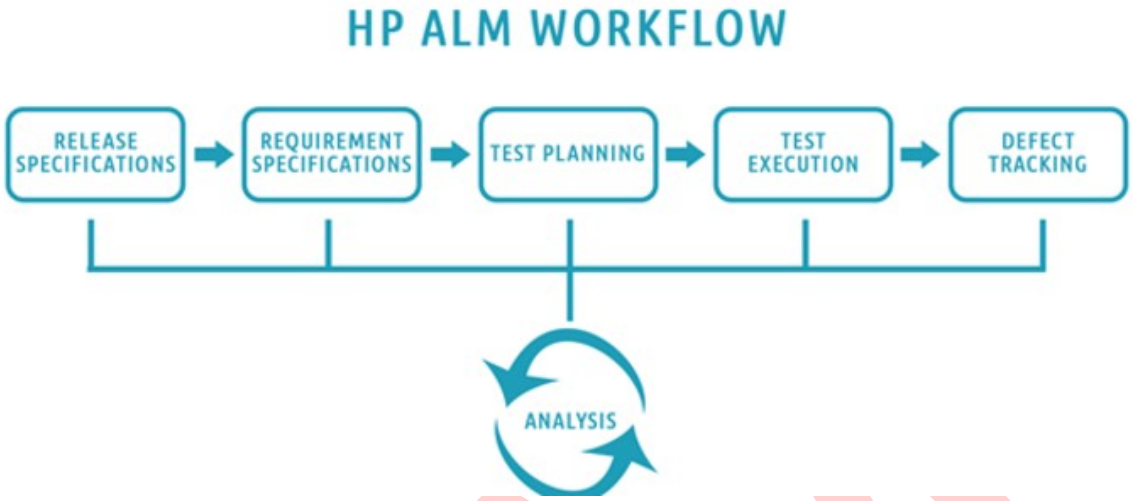
2. **ALM server/Application server:** Application server usually runs on a Windows or Linux platform which caters to the client requests. App server makes use of the Java Database Connectivity (JDBC) driver to communicate between the application server and database servers.

3.**Database servers**: The Database layer stores three schemas.

•**Site Administration schema:** It Stores information related to the domains, users, and site parameters.
•**Lab Project:** This schema stores lab information related to functional and performance testing on remote hosts, Performance Center server data.
•**Project schema:** Stores project information, such as work item/data created by the user under the project area. Each project has its own schema and they are are created on the same database server as the Site Administration schema.



ALM WORKFLOW



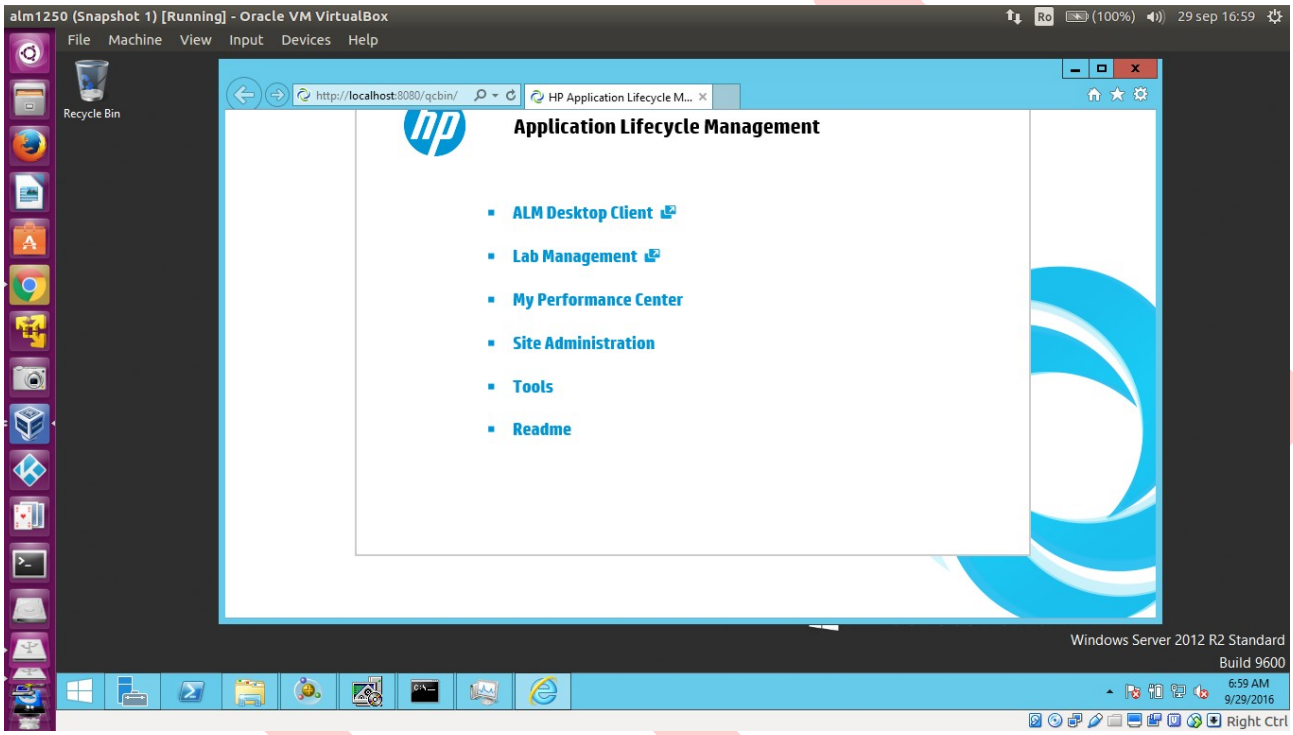
How to install HP ALM

Installation process

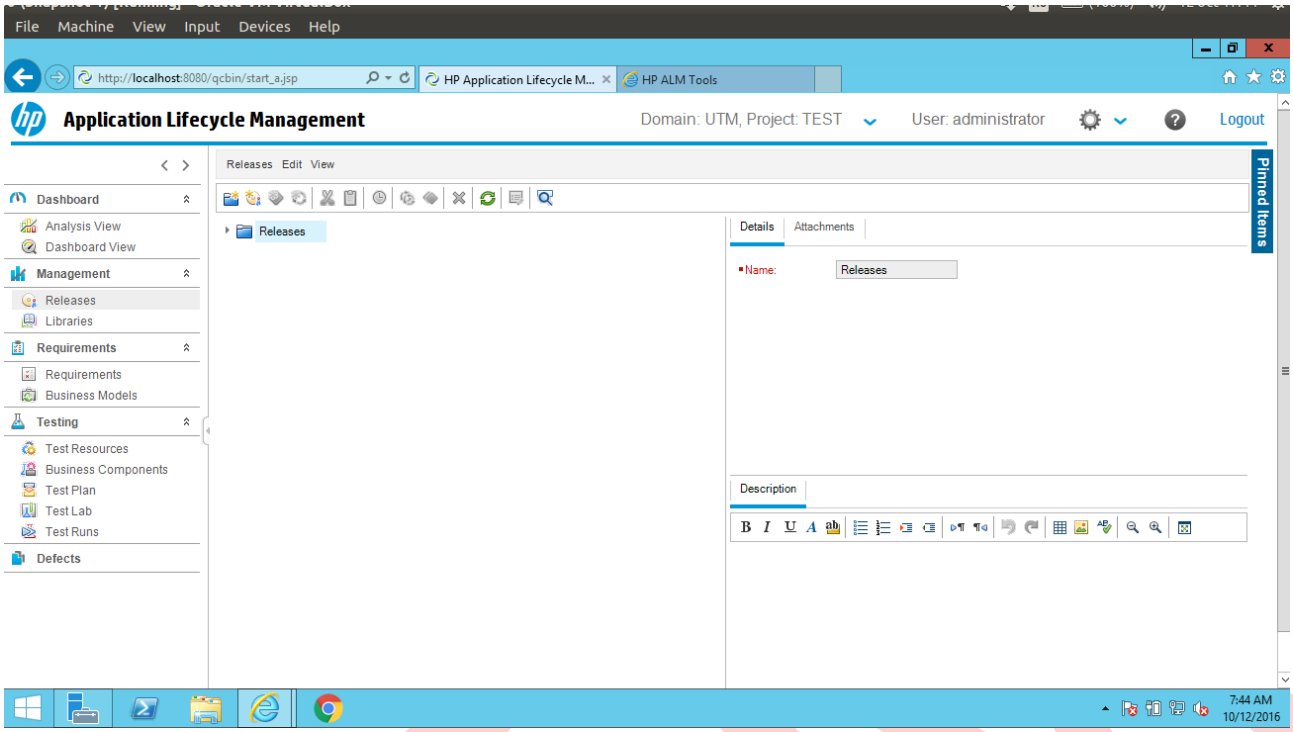
http://www8.hp.com/us/en/software-solutions/alm-software-development-testing/try-now.html

Create a Domain, Project, User in HP ALM

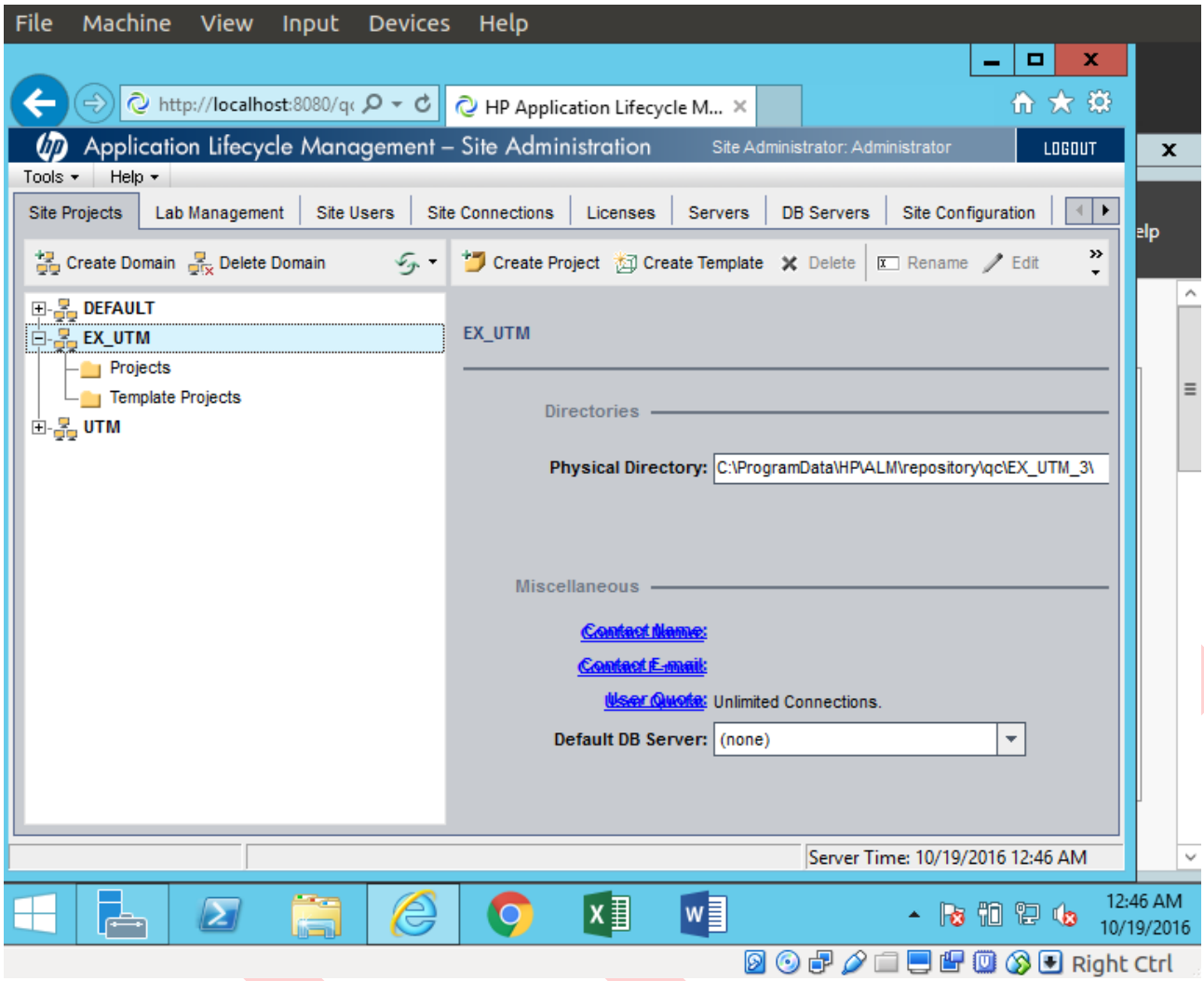
ALM client launch from IE



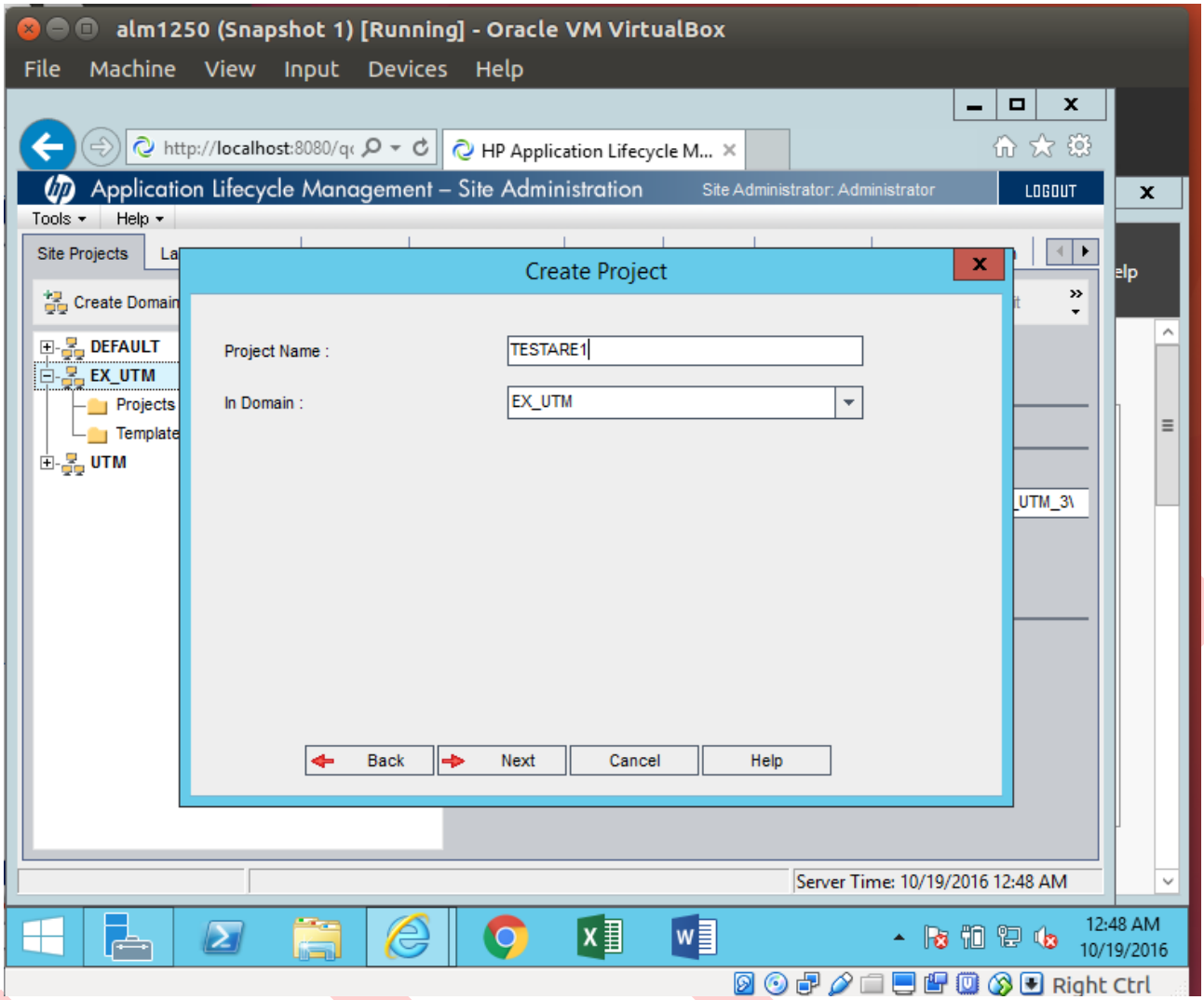
Client interface

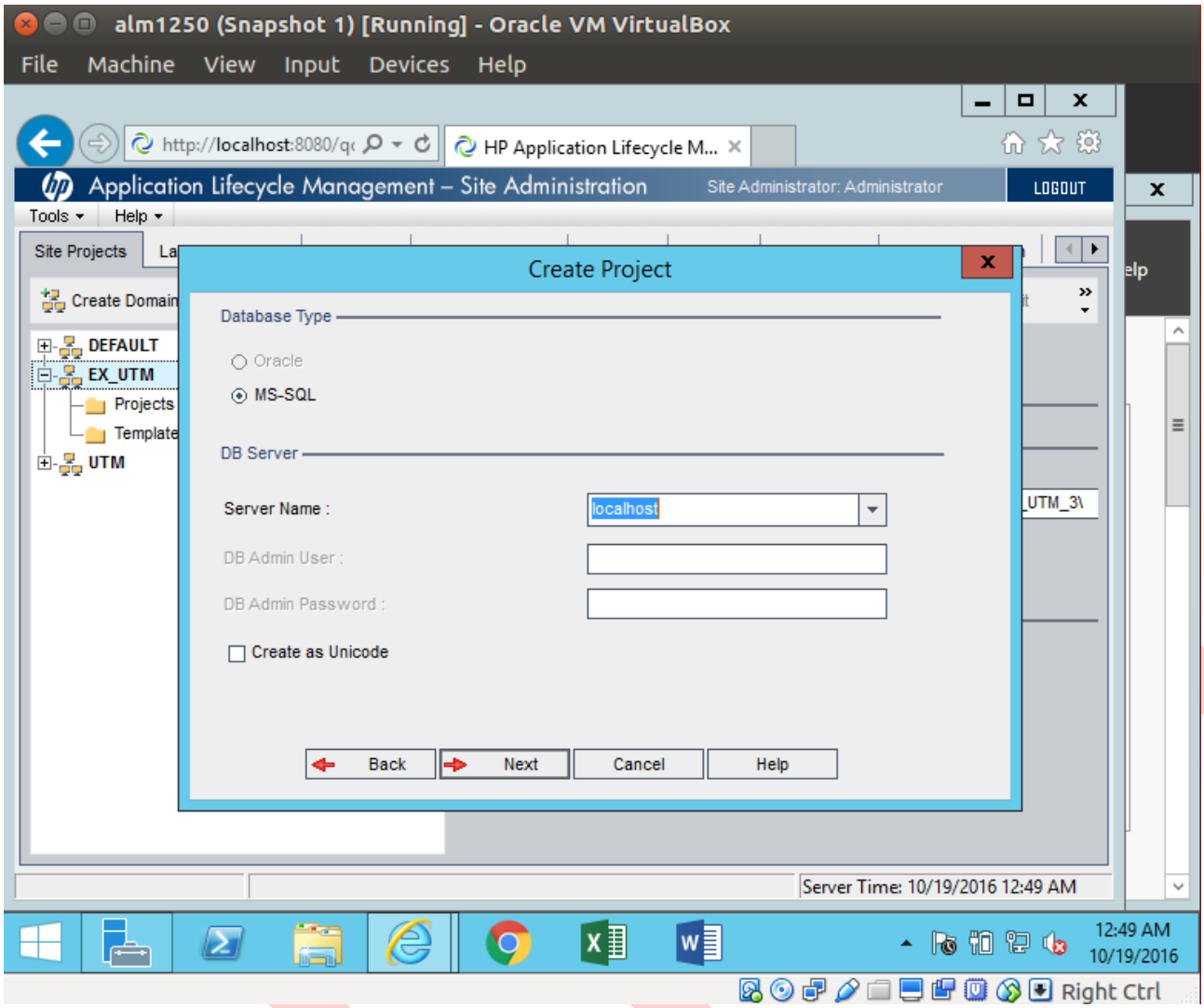


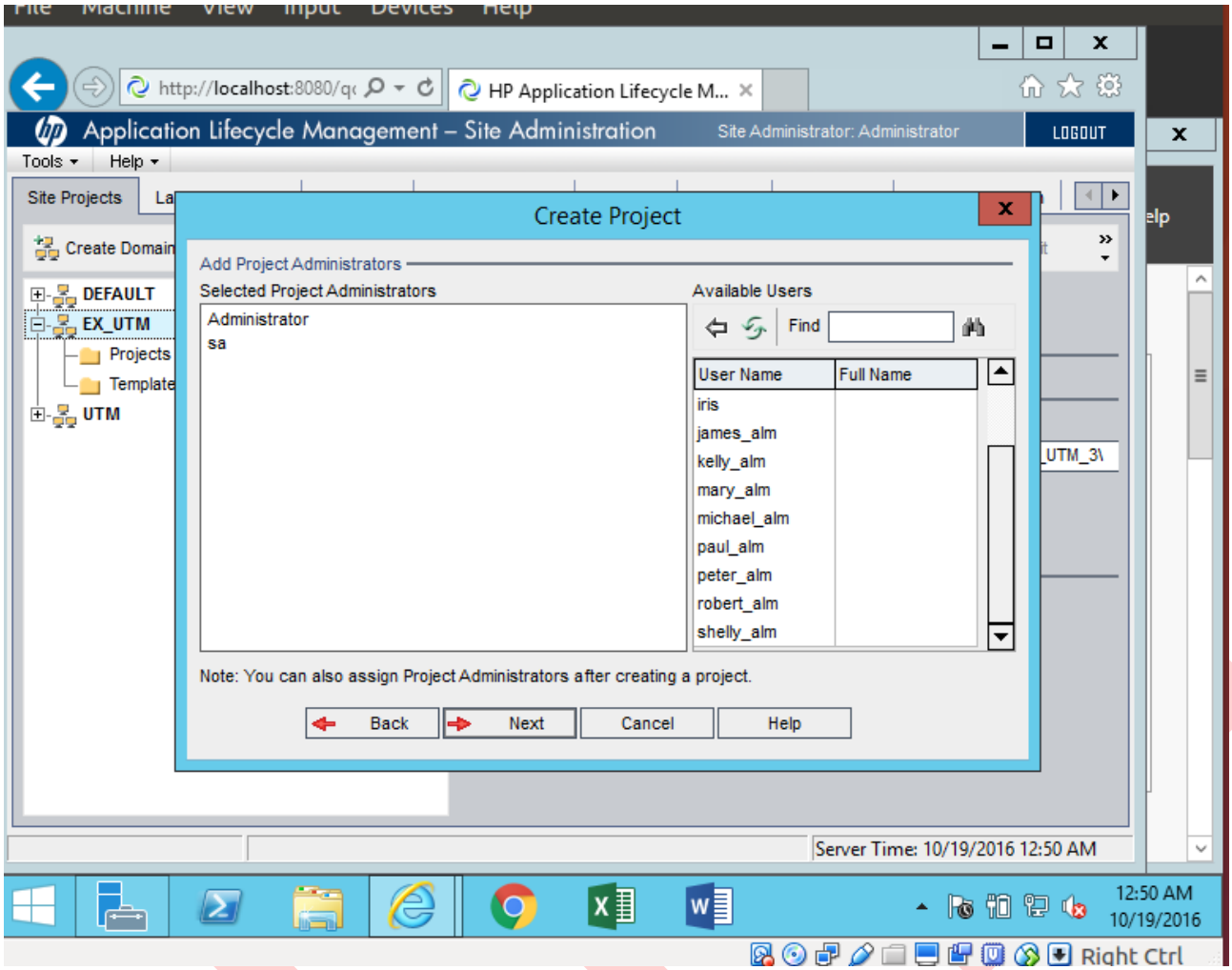
How to createEX_UTM domain

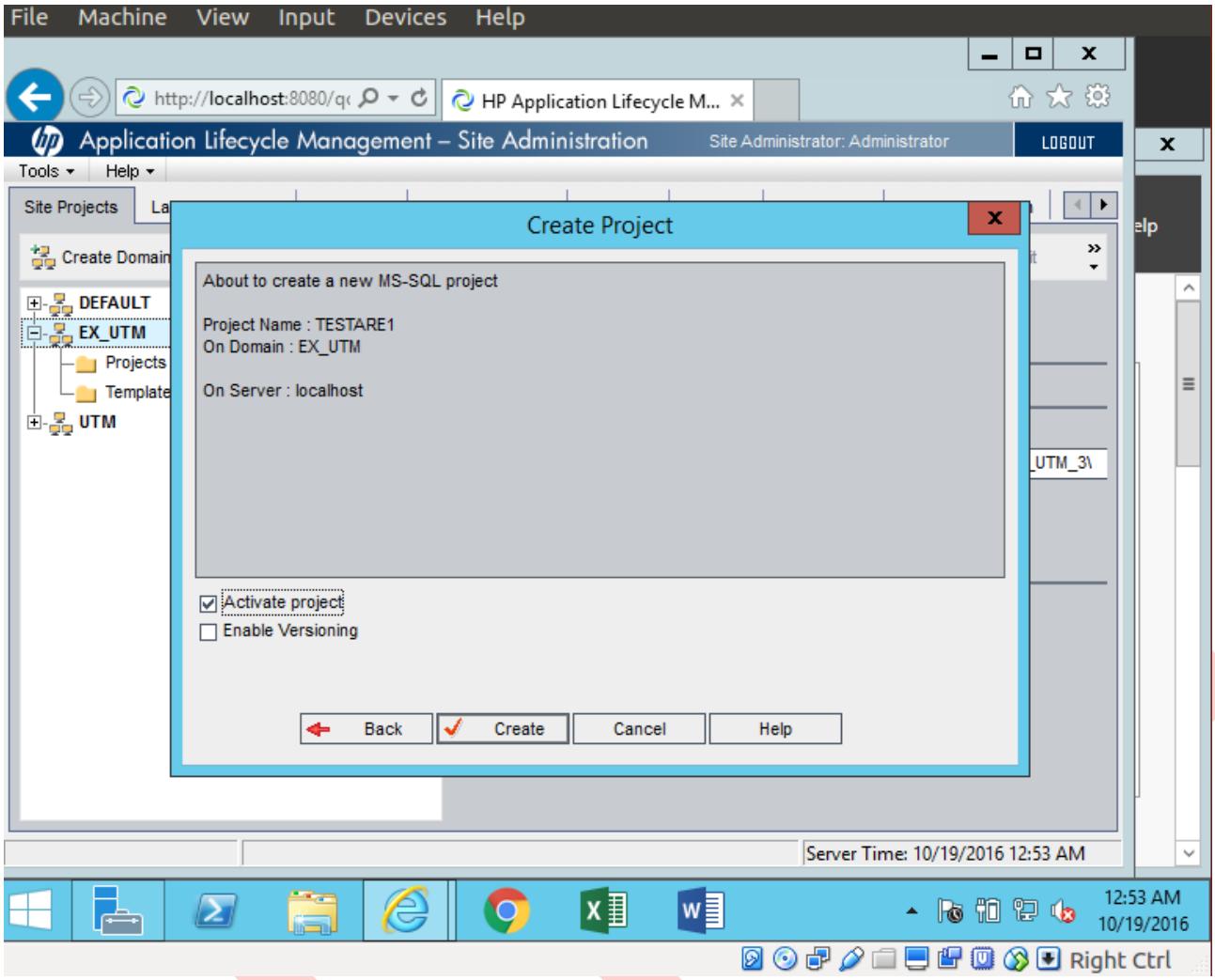

File Machine View Input Devices Help
http://localhost:8080/qc
HP Application Lifecycle M...
Application Lifecycle Management – Site Administration
Site Administrator: Administrator
LOGOUT
Tools
Help
Site Projects
Lab Management
Site Users
Site Connections
Licenses
Servers
DB Servers
Site Configuration
Create Domain
Delete Domain
Create Project
Create Template
Delete
Rename
Edit
DEFAULT
EX_UTM
Projects
Template Projects
UTM
EX_UTM
Directories
Physical Directory:
C:\ProgramData\HP\ALM\repository\qc\EX_UTM_3\
Miscellaneous
Contact Name:
Contact E-mail:
User Quota:
Unlimited Connections.
Default DB Server:
(none)
Server Time: 10/19/2016 12:46 AM
12:46 AM
10/19/2016
Right Ctrl

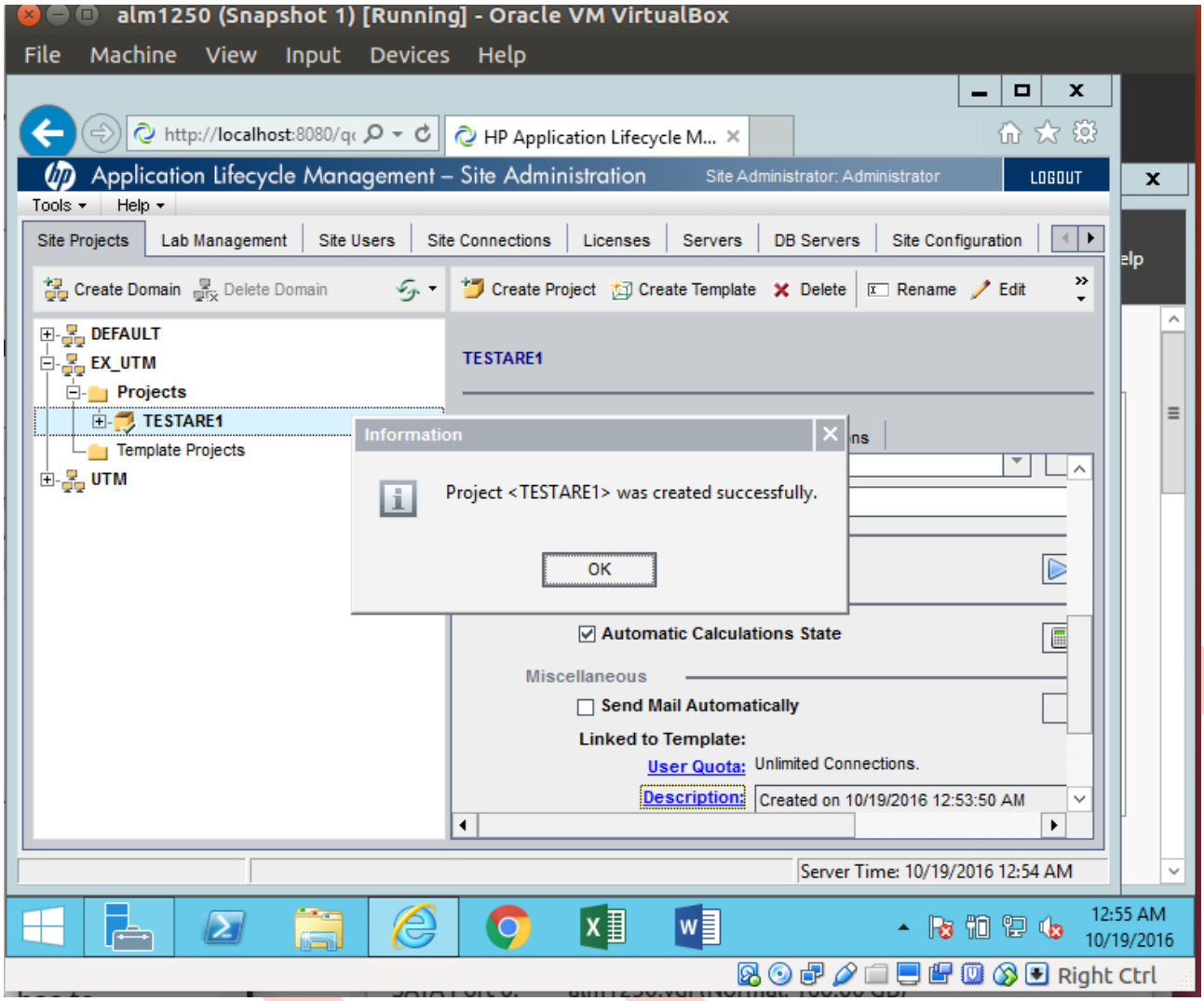
How to create project TESTARE1



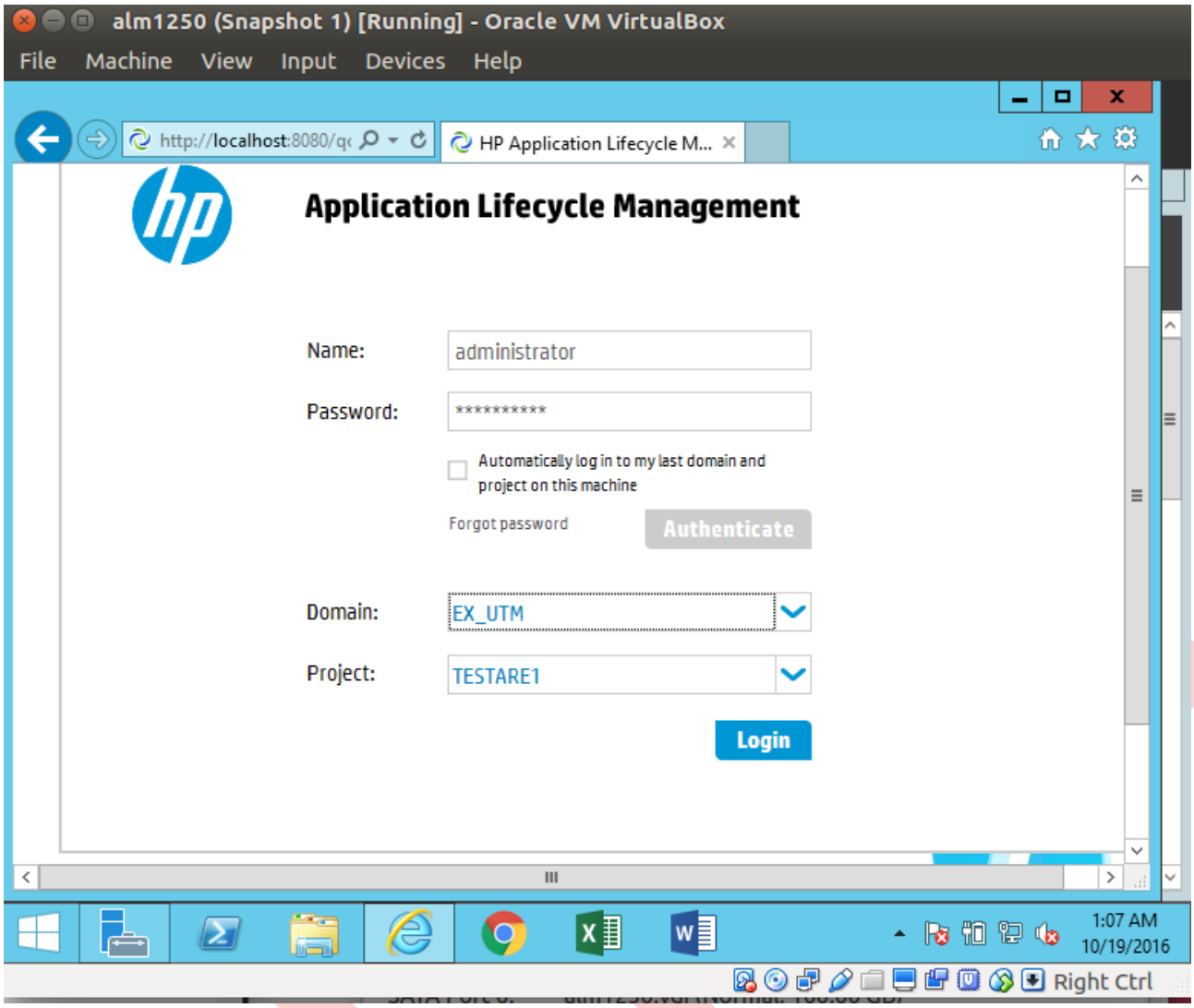

alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
http://localhost:8080/q
HP Application Lifecycle M...
Application Lifecycle Management – Site Administration
Site Administrator: Administrator
LOGOUT
Tools
Help
Site Projects
Create Domain
DEFAULT
EX_UTM
Projects
Template
UTM
Create Project
Database Type
Oracle
MS-SQL
DB Server
Server Name :
localhost
DB Admin User :
DB Admin Password :
Create as Unicode
Back
Next
Cancel
Help
Server Time: 10/19/2016 12:49 AM
12:49 AM
10/19/2016
Right Ctrl

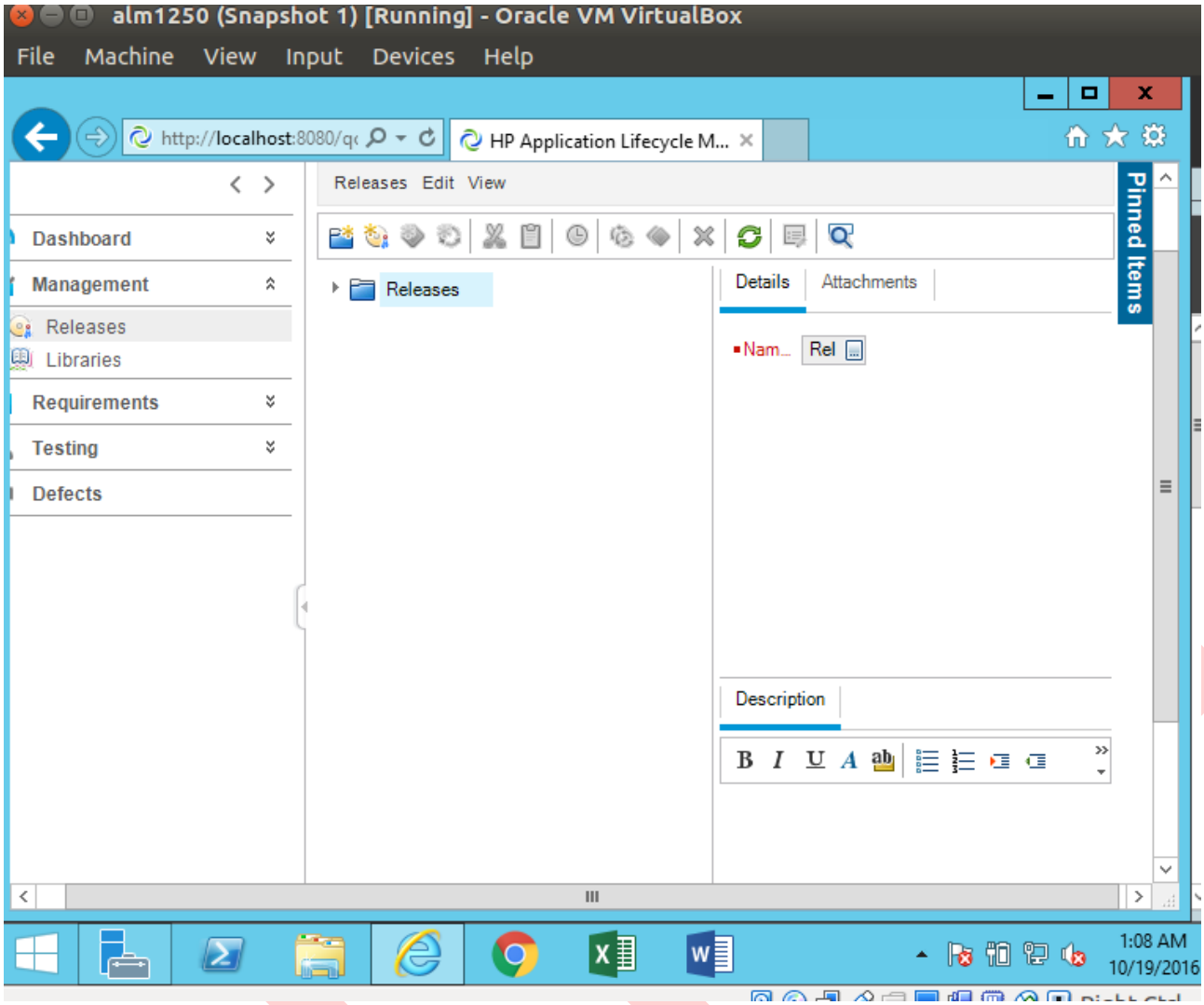

Application Lifecycle Management – Site Administration
Site Administrator: Administrator
LOGOUT
Tools
Help
Site Projects
Create Domain
DEFAULT
EX_UTM
Projects
Template
UTM
Create Project
Add Project Administrators
Selected Project Administrators
Administrator
sa
Available Users
Find
User Name
Full Name
iris
james_alm
kelly_alm
mary_alm
michael_alm
paul_alm
peter_alm
robert_alm
shelly_alm
Note: You can also assign Project Administrators after creating a project.
Back
Next
Cancel
Help
Server Time: 10/19/2016 12:50 AM
12:50 AM
10/19/2016
Right Ctrl

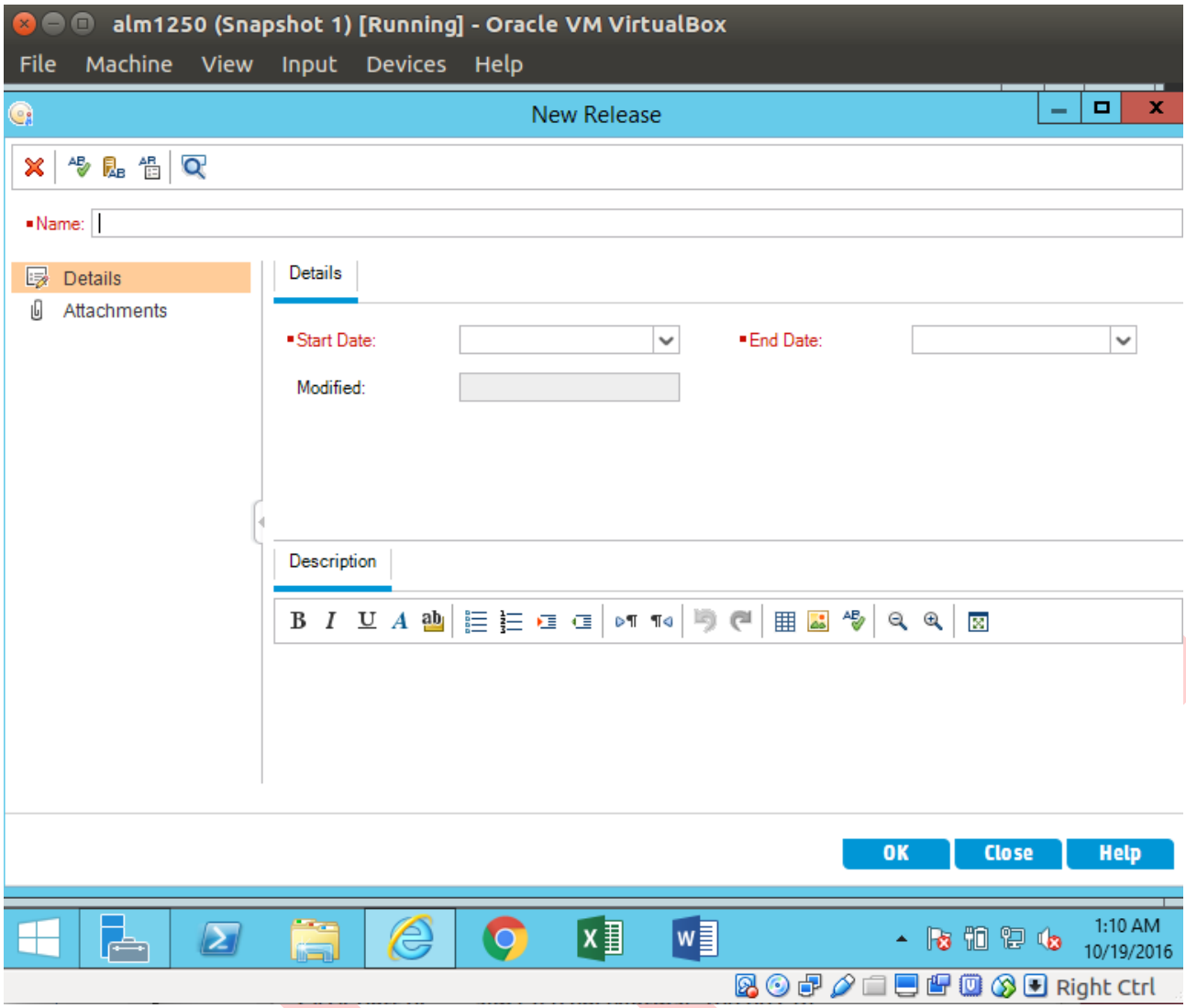

File Machine View Input Devices Help
http://localhost:8080/qc
HP Application Lifecycle M...
Application Lifecycle Management – Site Administration
Site Administrator: Administrator
LOGOUT
Tools
Help
Site Projects
Create Domain
DEFAULT
EX_UTM
Projects
Template
UTM
Create Project
About to create a new MS-SQL project
Project Name : TESTARE1
On Domain : EX_UTM
On Server : localhost
Activate project
Enable Versioning
Back
Create
Cancel
Help
Server Time: 10/19/2016 12:53 AM
12:53 AM
10/19/2016
Right Ctrl

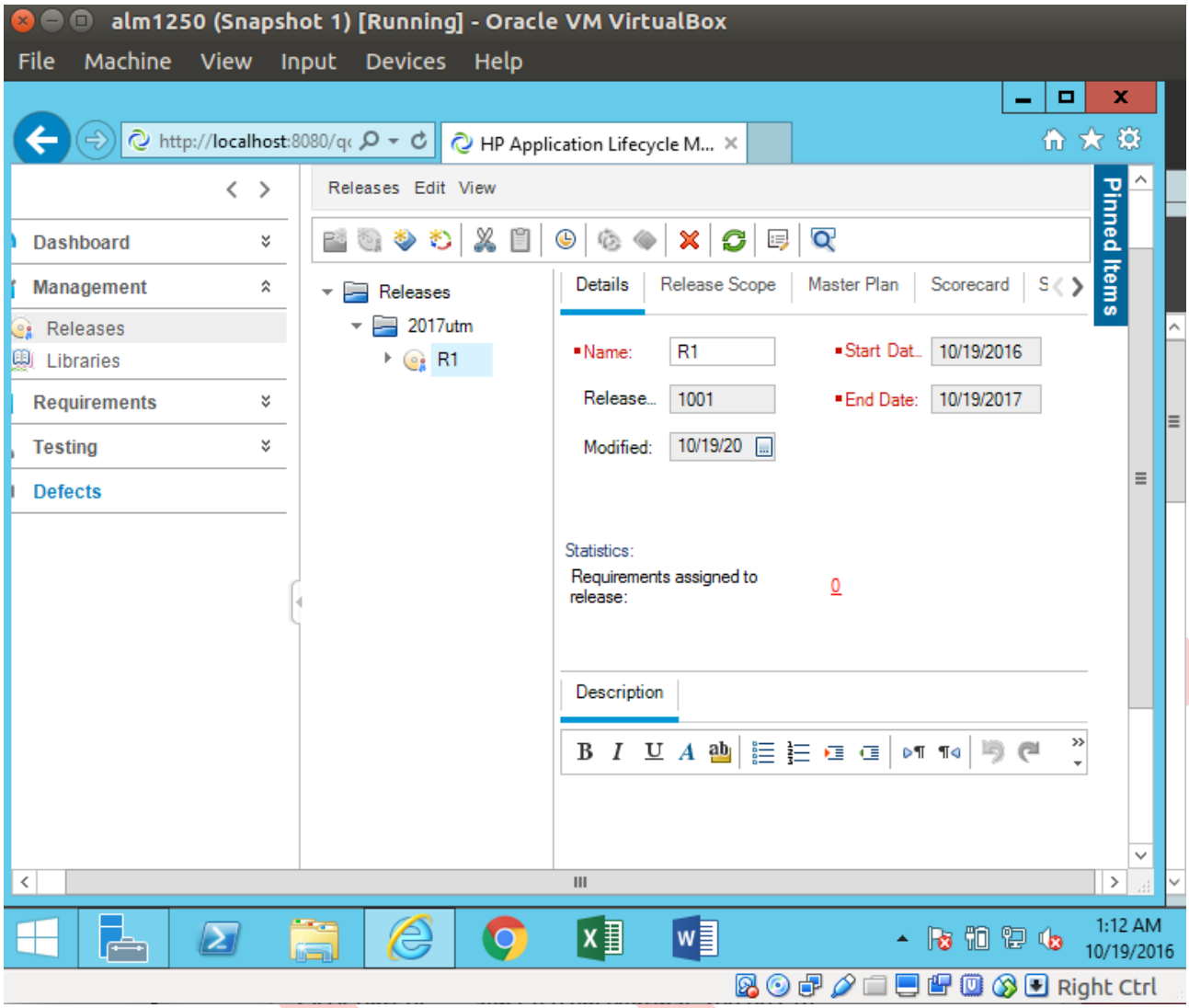


Release Specifications: Understanding the Management Tab in HP ALM


alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
http://localhost:8080/qc
HP Application Lifecycle M...
Application Lifecycle Management
Name:
administrator
Password:
****
Automatically log in to my last domain and project on this machine
Forgot password
Authenticate
Domain:
EX_UTM
Project:
TESTARE1
Login
1:07 AM
10/19/2016
Right Ctrl


alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
http://localhost:8080/qc
HP Application Lifecycle M...
Releases Edit View
Dashboard
Management
Releases
Libraries
Requirements
Testing
Defects
Releases
Details
Attachments
Nam...
Rel
Description
Pinned Items
1:08 AM
10/19/2016


alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
New Release
Name:
Details
Attachments
Details
Start Date:
End Date:
Modified:
Description
OK
Close
Help
1:10 AM
10/19/2016
Right Ctrl

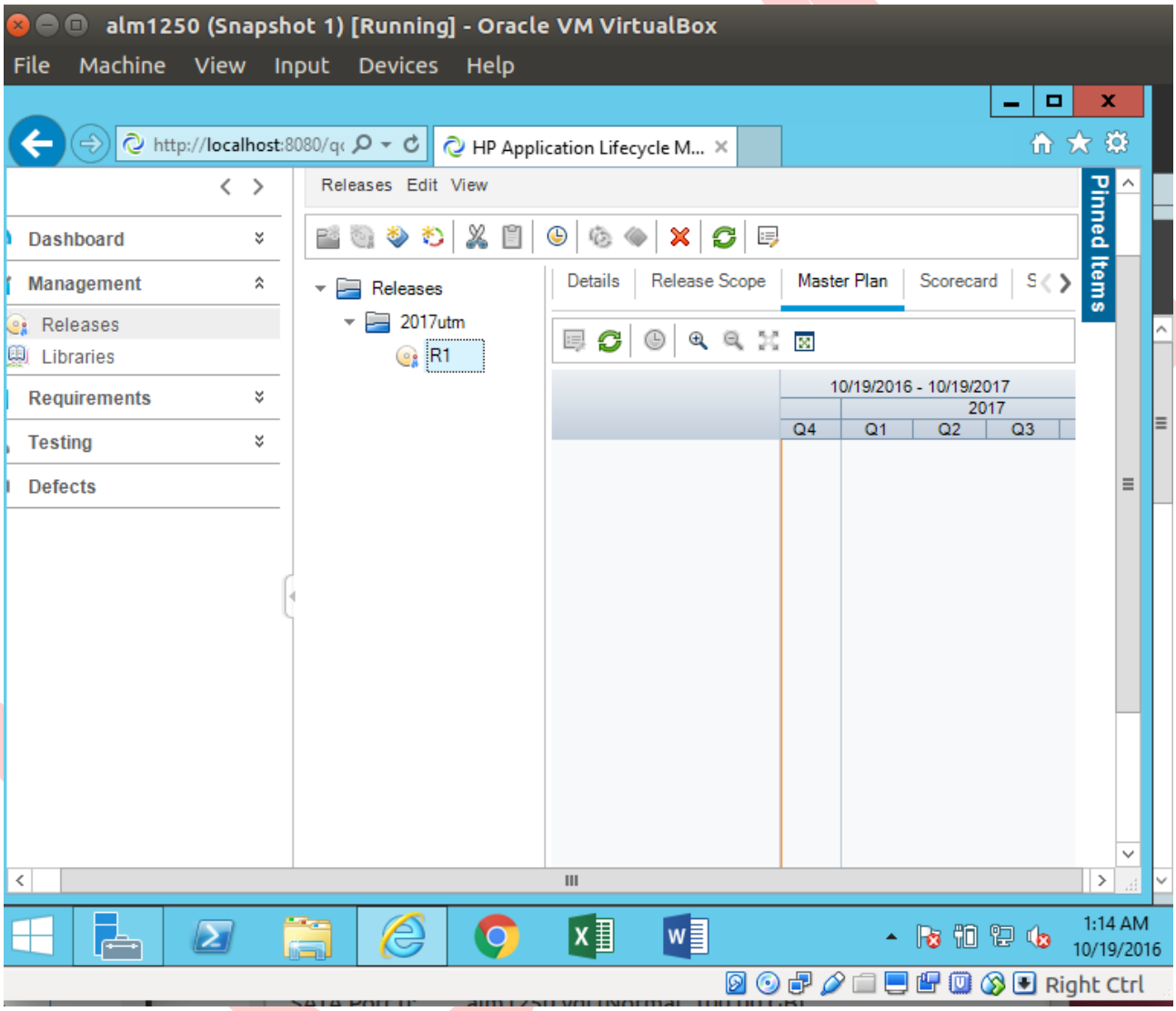


Requirements Specifications module in HP ALM

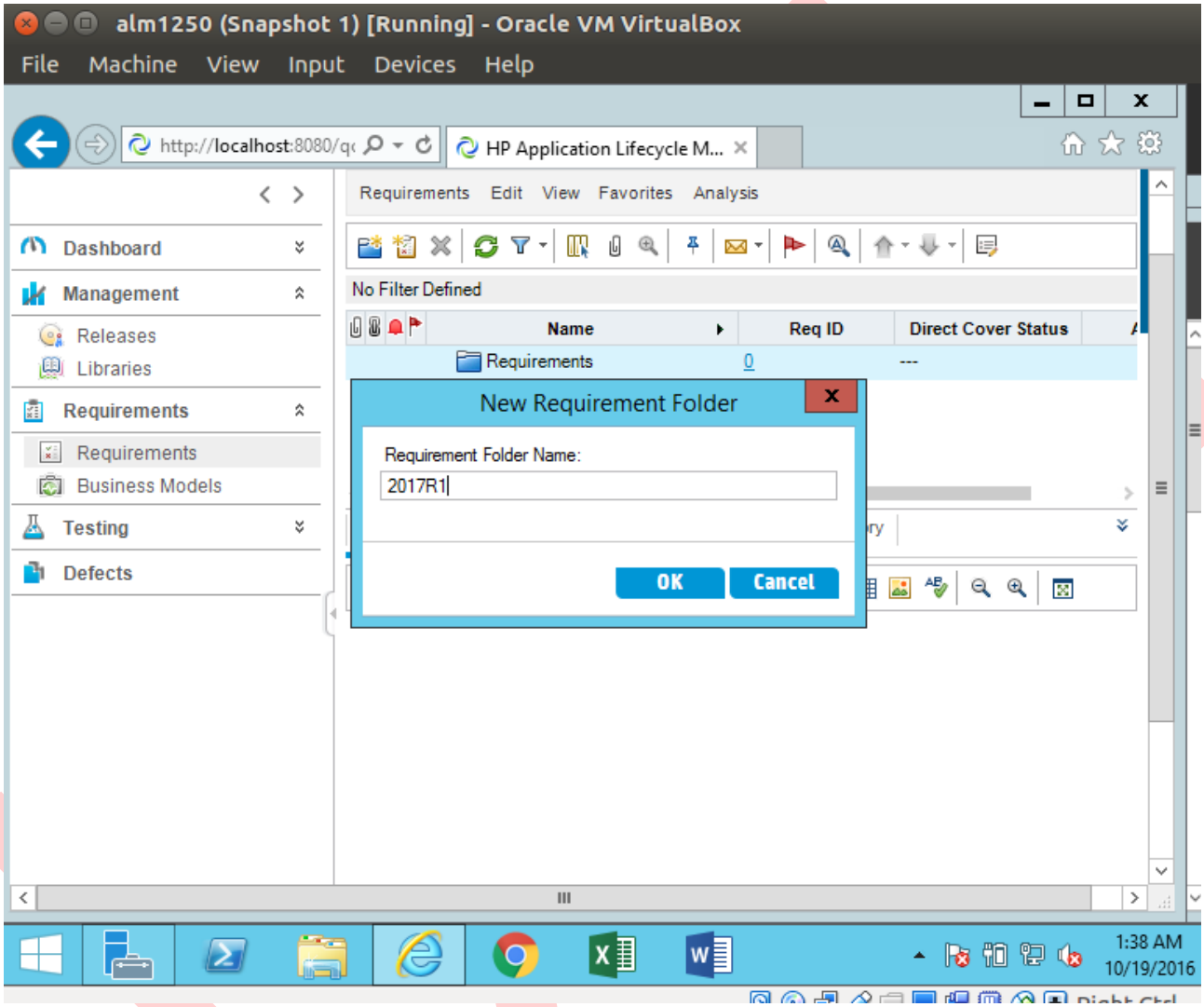
Test Plan Module in HP ALM

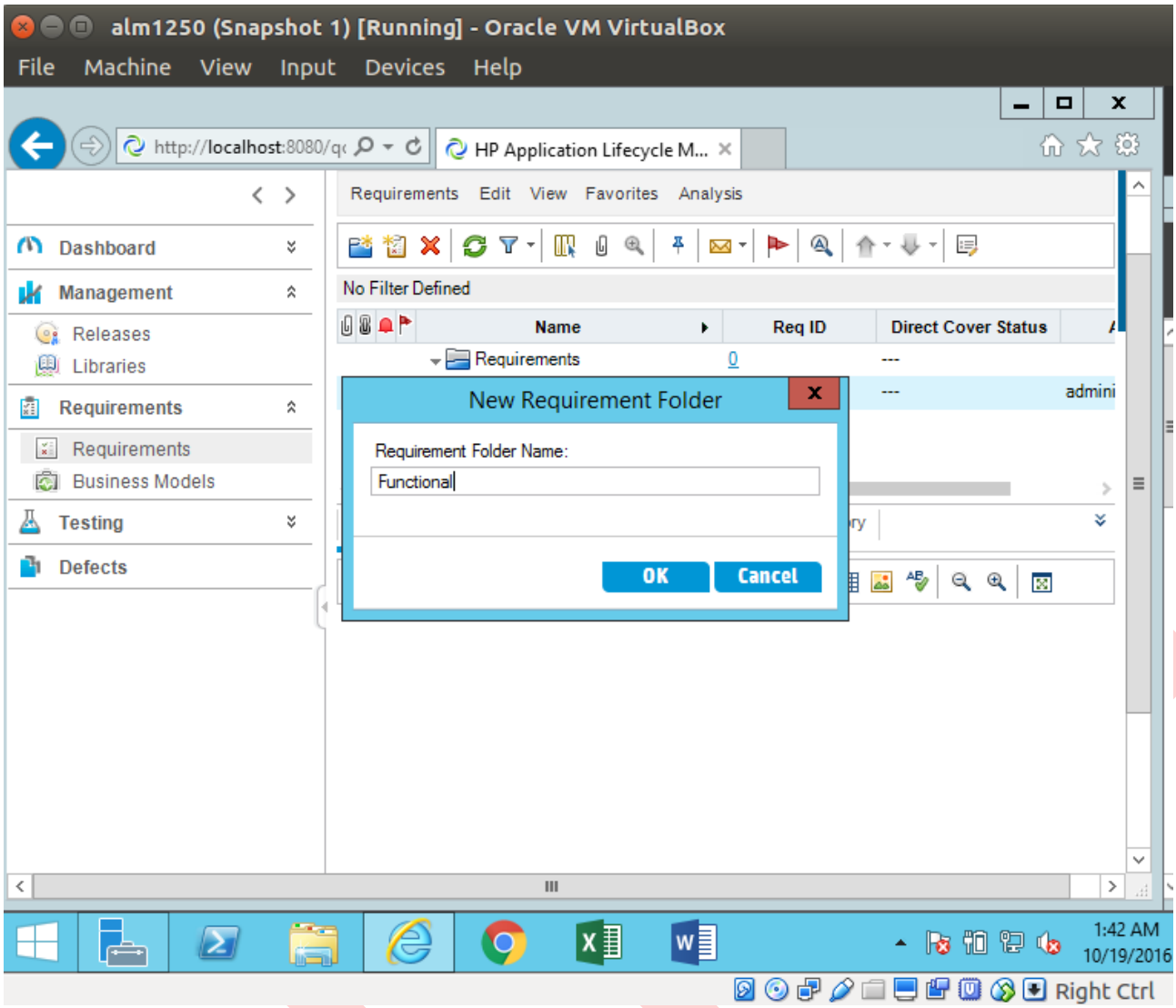
Test Lab in HP ALM

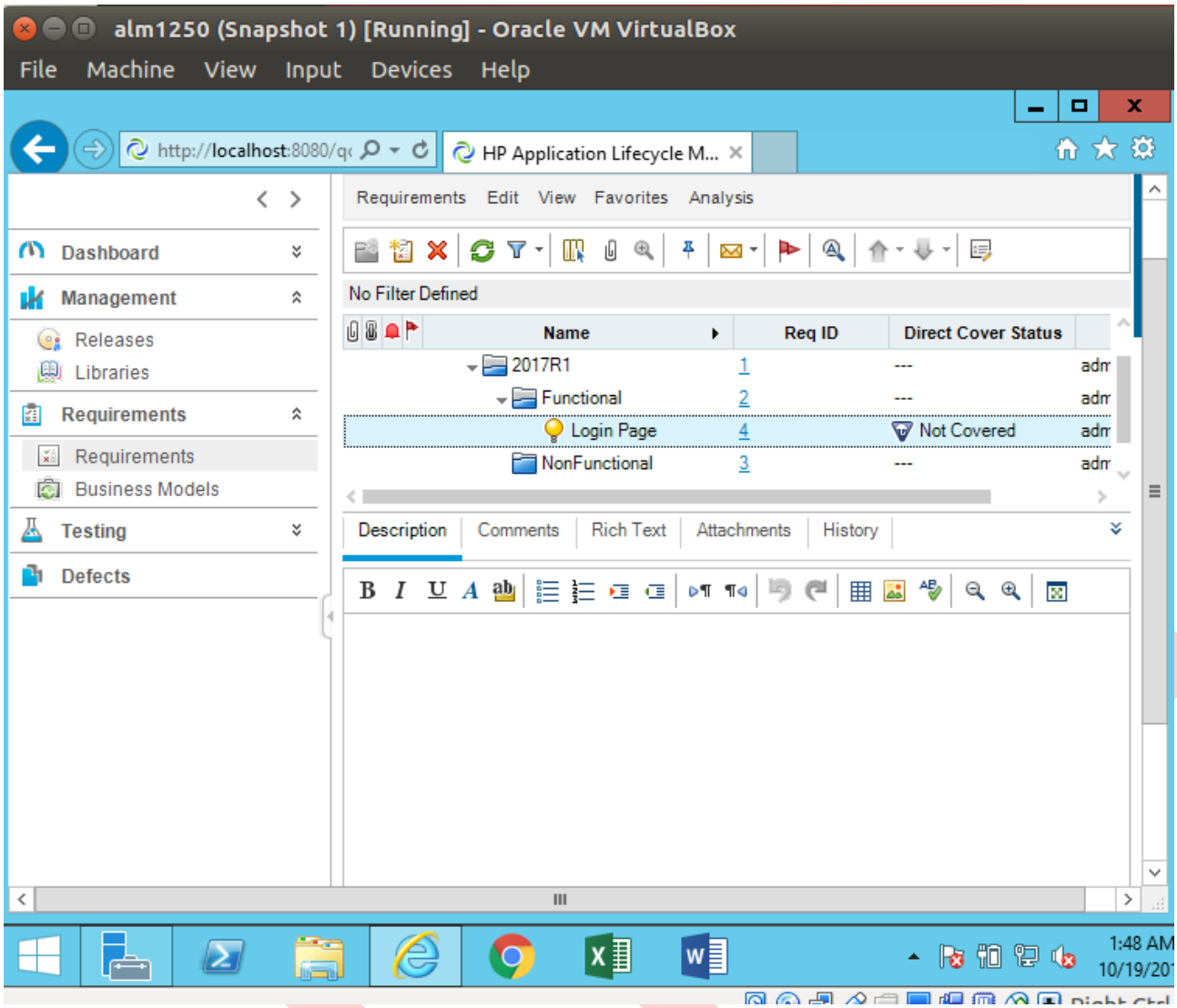
How to integrate UFT(QTP) with ALM

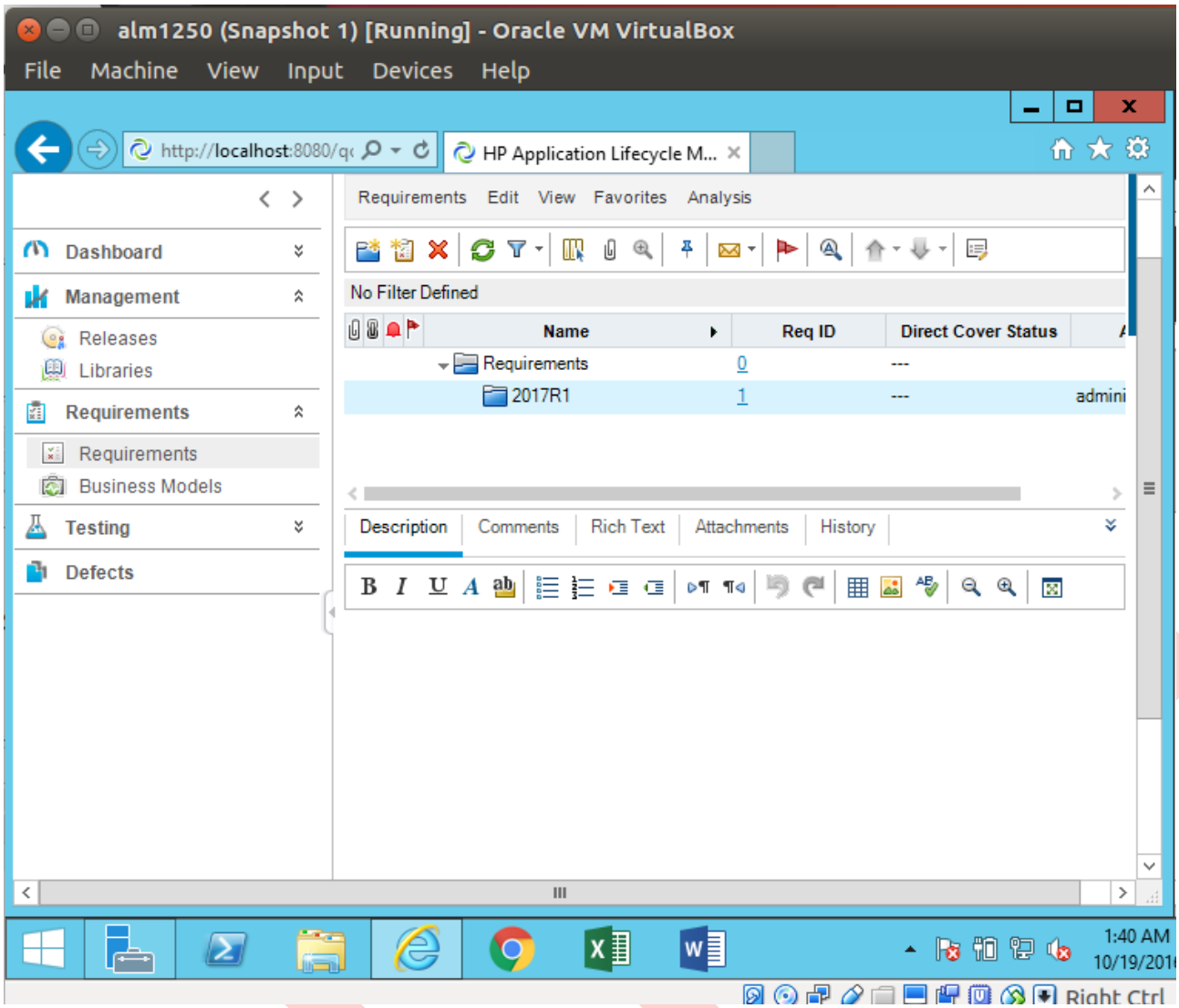


Requirements Specifications module in HP ALM



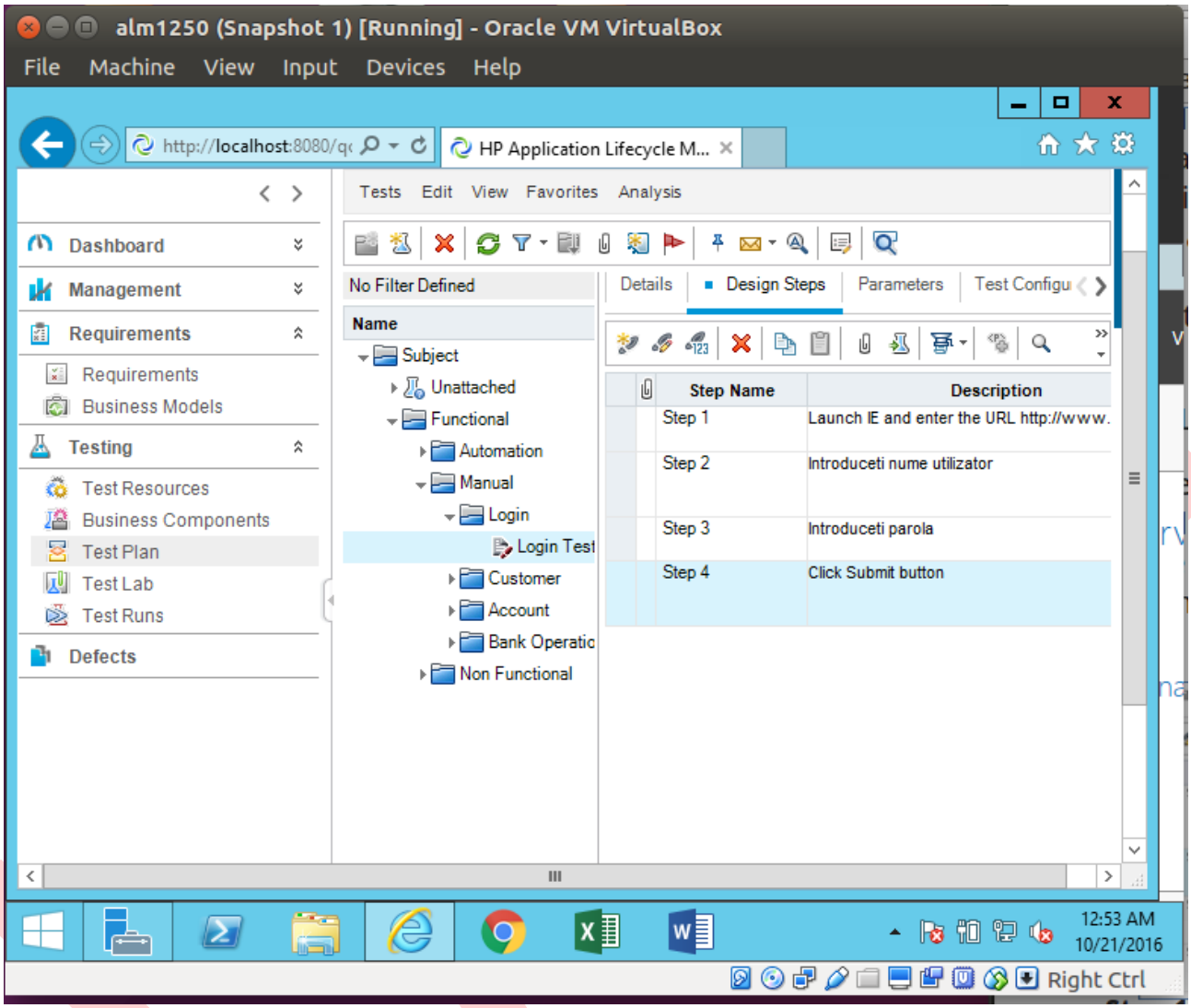

alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
http://localhost:8080/qc
HP Application Lifecycle M...
Requirements Edit View Favorites Analysis
Dashboard
Management
Releases
Libraries
Requirements
Requirements
Business Models
Testing
Defects
No Filter Defined
Name
Req ID
Direct Cover Status
Requirements
0
---
admini
New Requirement Folder
Requirement Folder Name:
Functional
OK
Cancel
1:42 AM
10/19/2016
Right Ctrl

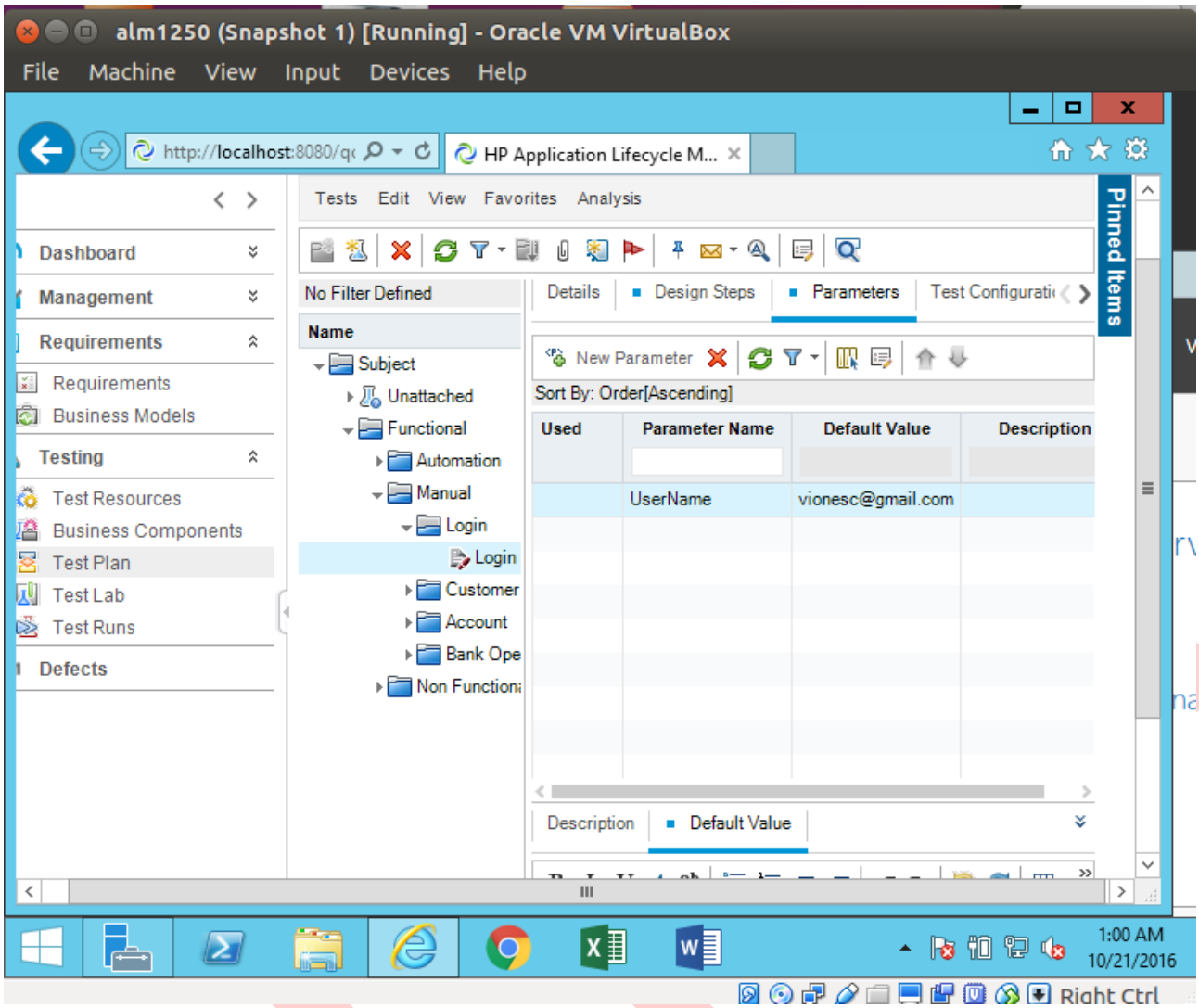

alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
http://localhost:8080/qc
HP Application Lifecycle M...
Requirements Edit View Favorites Analysis
Dashboard
Management
Releases
Libraries
Requirements
Requirements
Business Models
Testing
Defects
No Filter Defined
Name
Req ID
Direct Cover Status
2017R1
1
Functional
2
Login Page
4
Not Covered
NonFunctional
3
Description
Comments
Rich Text
Attachments
History
1:48 AM

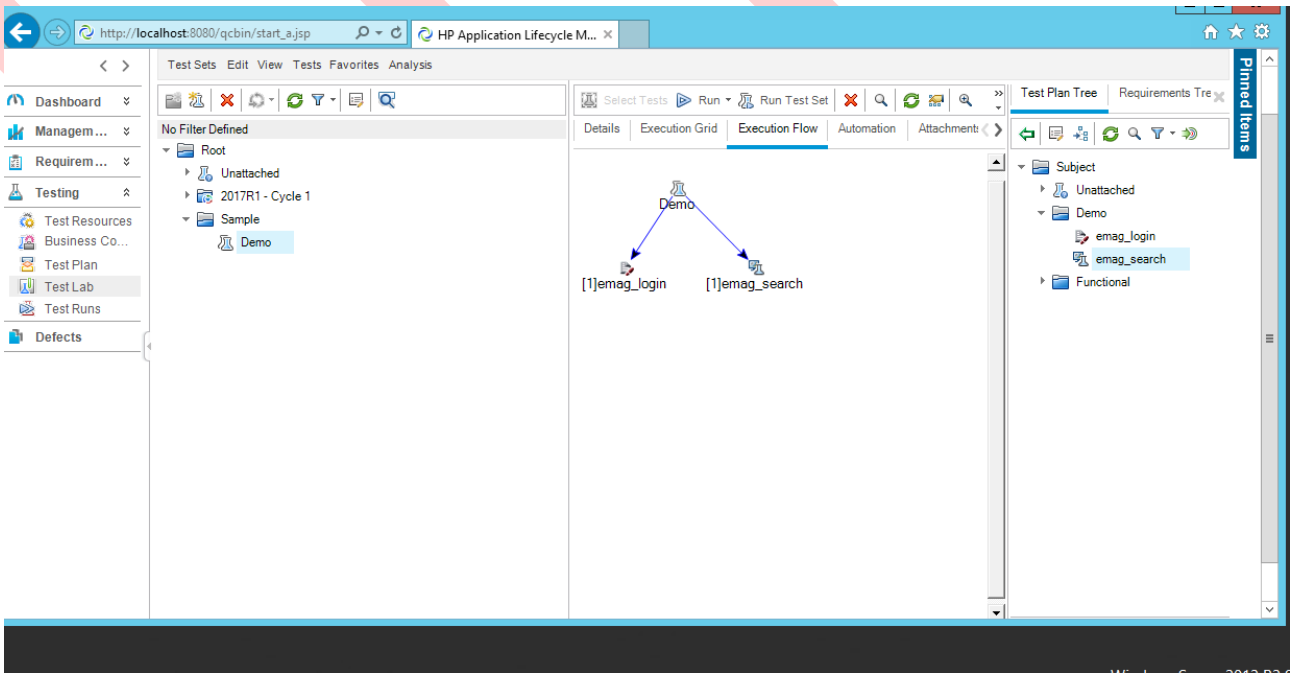

alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
http://localhost:8080/qc
HP Application Lifecycle M...
Requirements Edit View Favorites Analysis
Dashboard
Management
Releases
Libraries
Requirements
Requirements
Business Models
Testing
Defects
No Filter Defined
Name
Req ID
Direct Cover Status
Requirements
0

2017R1
1
---
admini
Description
Comments
Rich Text
Attachments
History
1:40 AM
10/19/201
Right Ctrl

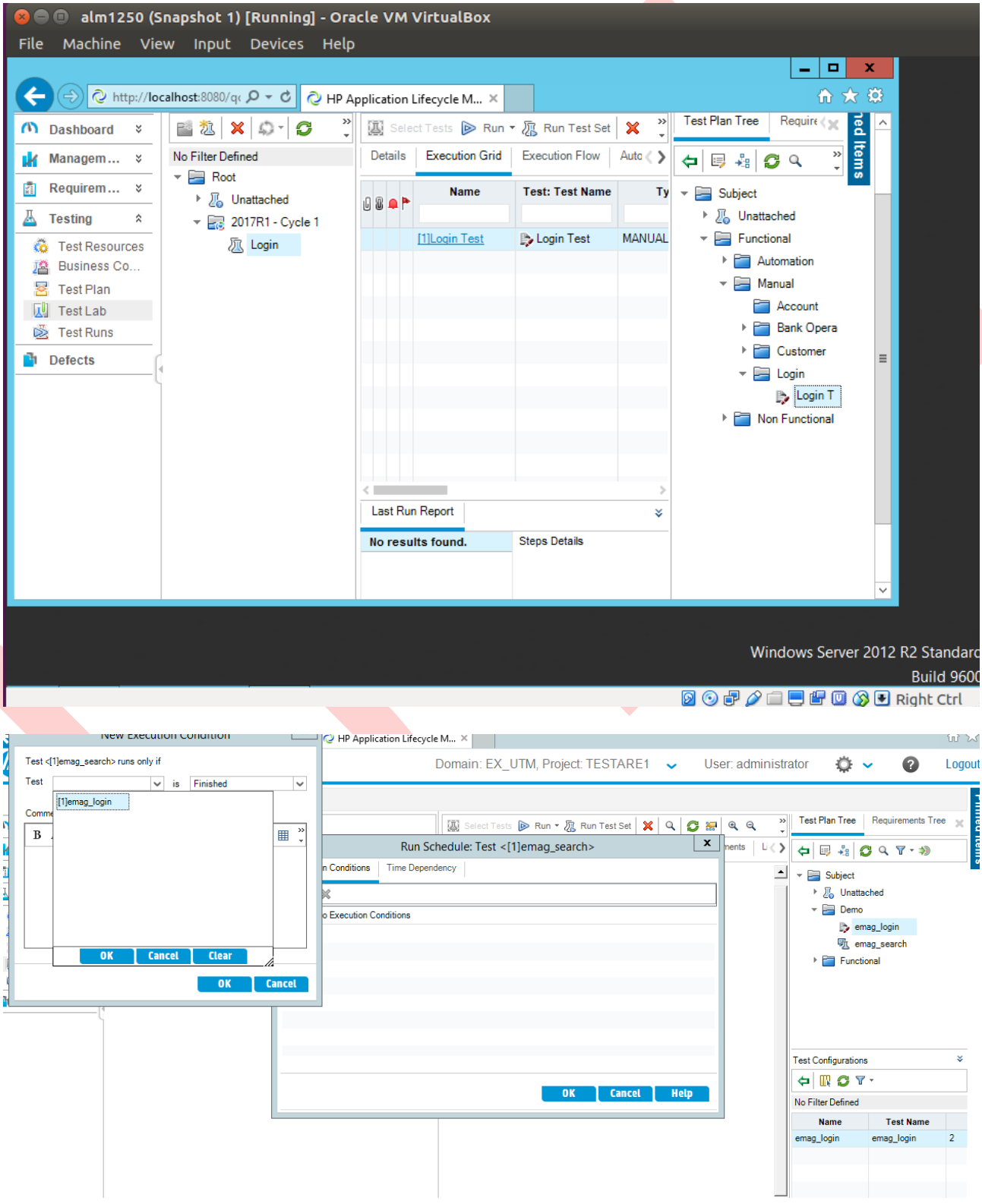
Test Plan Module in HP ALM

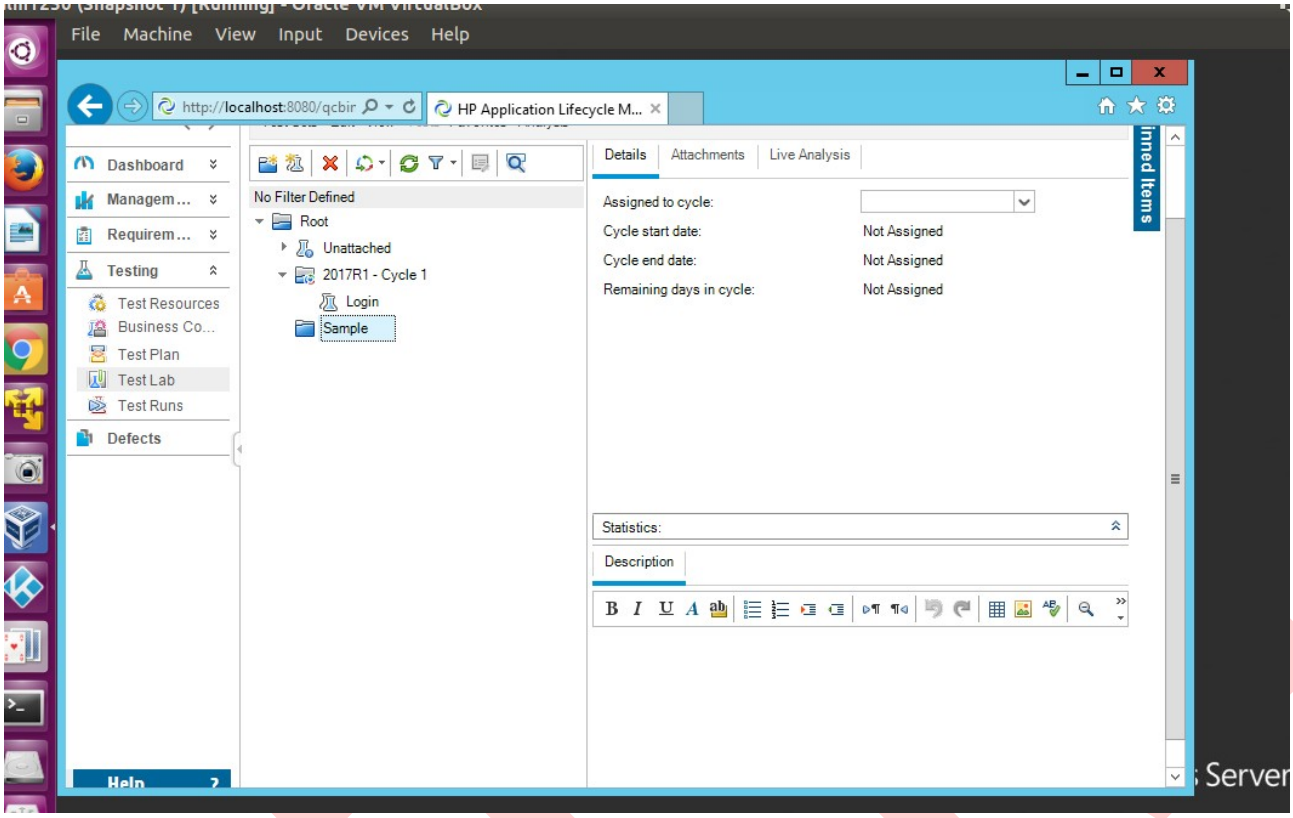


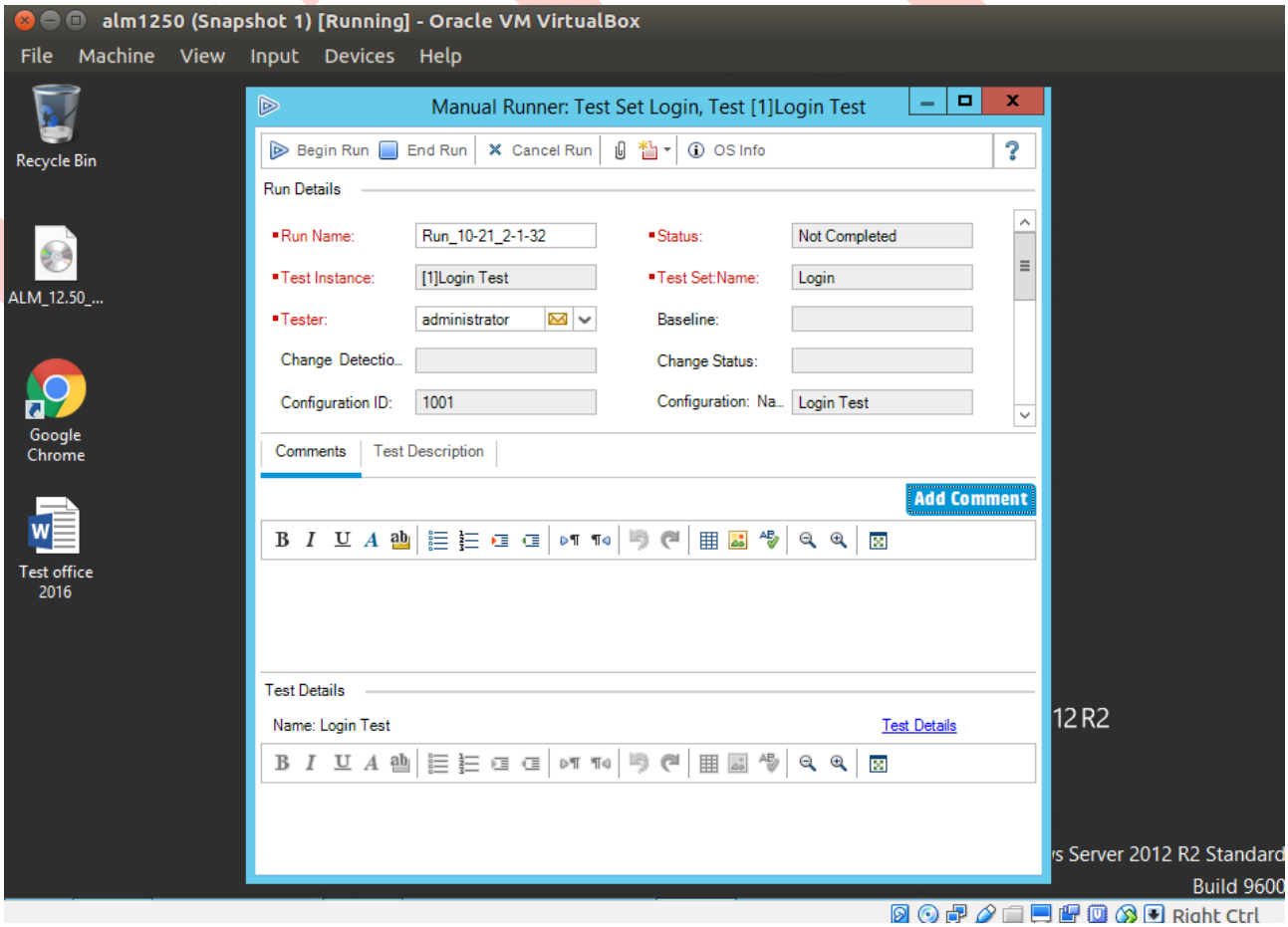

alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
HP Application Lifecycle M...
Tests Edit View Favorites Analysis
Dashboard
Management
Requirements
Requirements
Business Models
Testing
Test Resources
Business Components
Test Plan
Test Lab
Test Runs
Defects
No Filter Defined
Name
Subject
Unattached
Functional
Automation
Manual
Login
Login
Customer
Account
Bank Ope
Non Functiona
Details
Design Steps
Parameters
Test Configurati
Pinned Items
New Parameter
Sort By: Order[Ascending]
Used
Parameter Name
Default Value
Description
UserName
vionesc@gmail.com
Description
Default Value
1:00 AM
10/21/2016
Right Ctrl

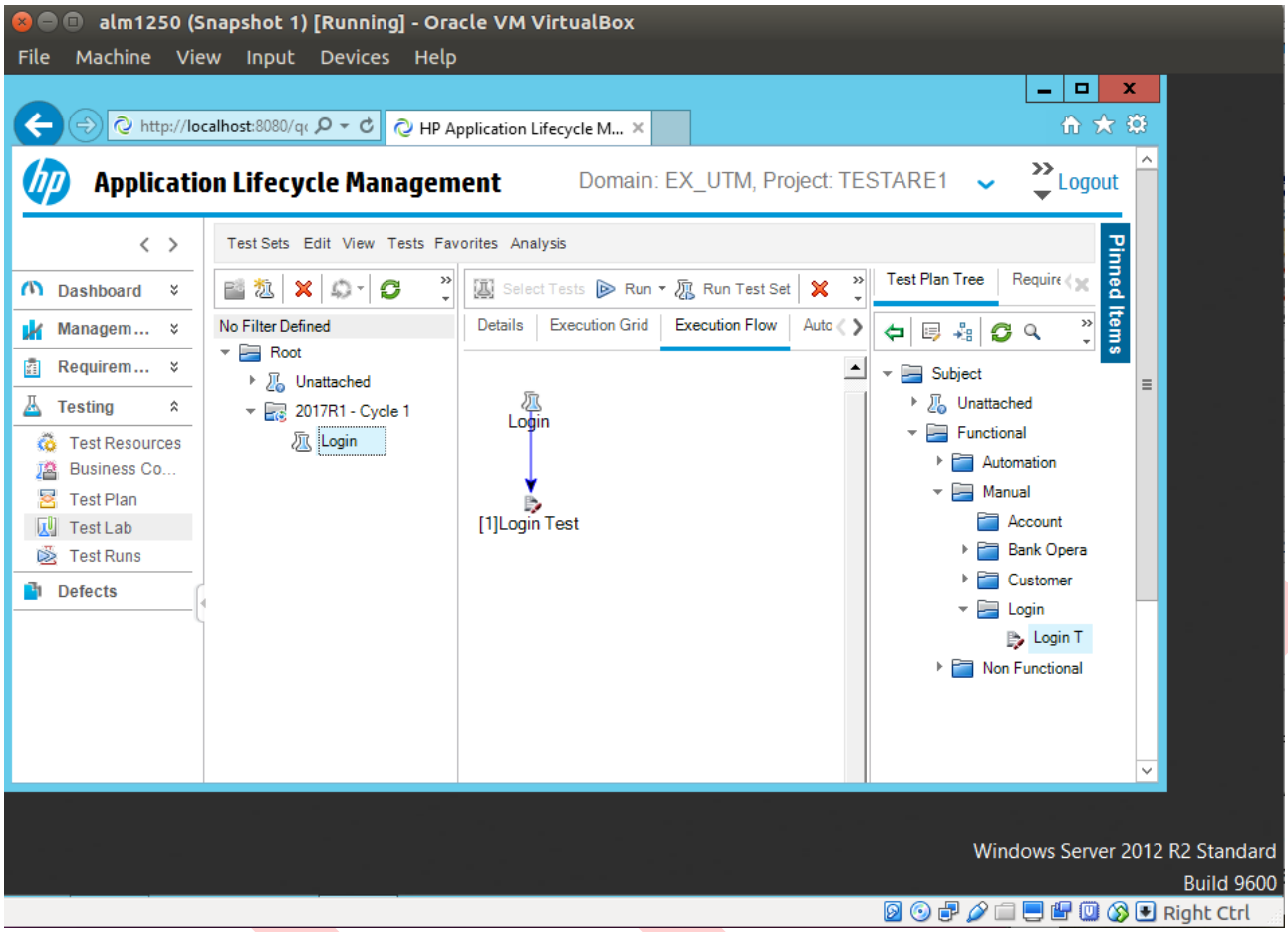

http://localhost:8080/qcbin/start_a.jsp
HP Application Lifecycle M...
Test Sets Edit View Tests Favorites Analysis
Dashboard
Testing
Test Resources
Test Plan
Test Lab
Test Runs
Defects
No Filter Defined
Root
Unattached
2017R1 - Cycle 1
Sample
Demo
Select Tests
Run
Run Test Set
Details
Execution Grid
Execution Flow
Automation
Demo
[1]emag_login
[1]emag_search
Test Plan Tree
Requirements Tre
Pinned Items
Subject
Unattached
Demo
emag_login
emag_search
Functional

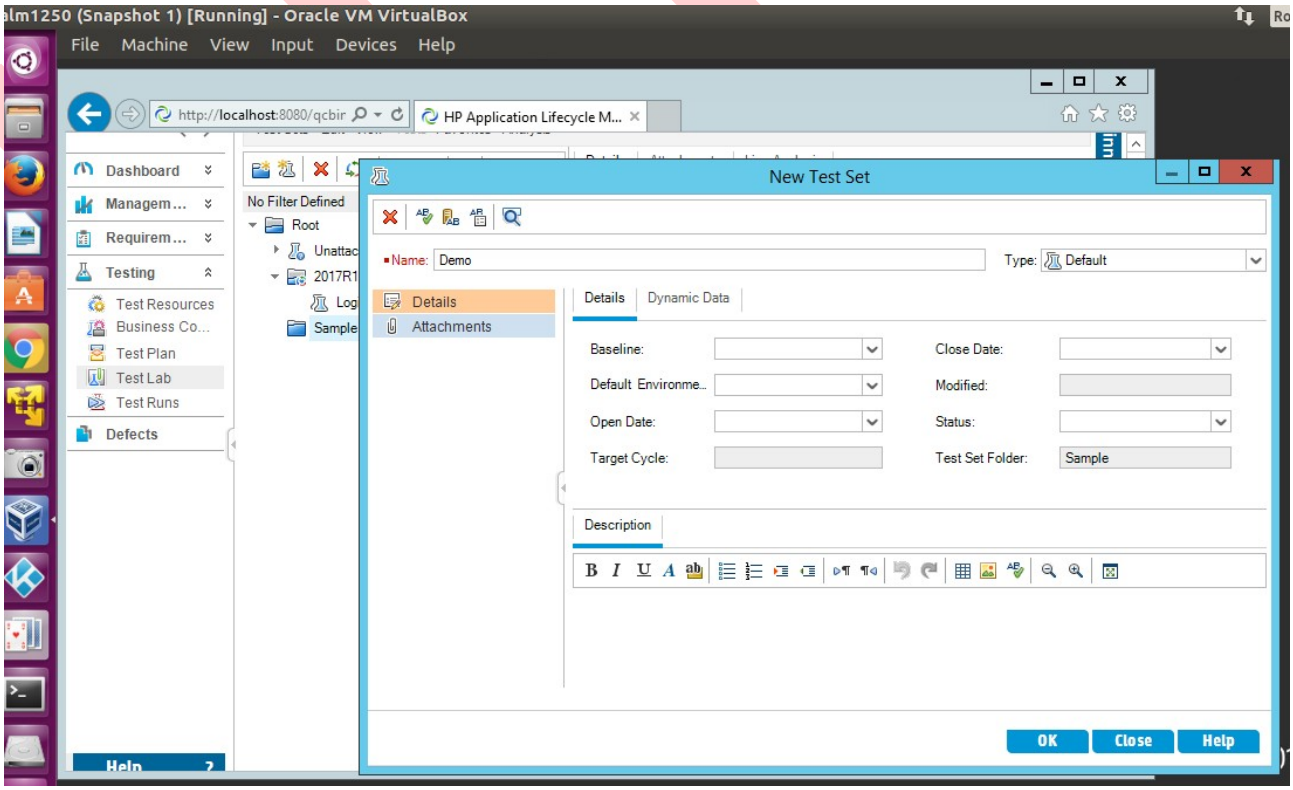
Working with Test Lab in HP ALM

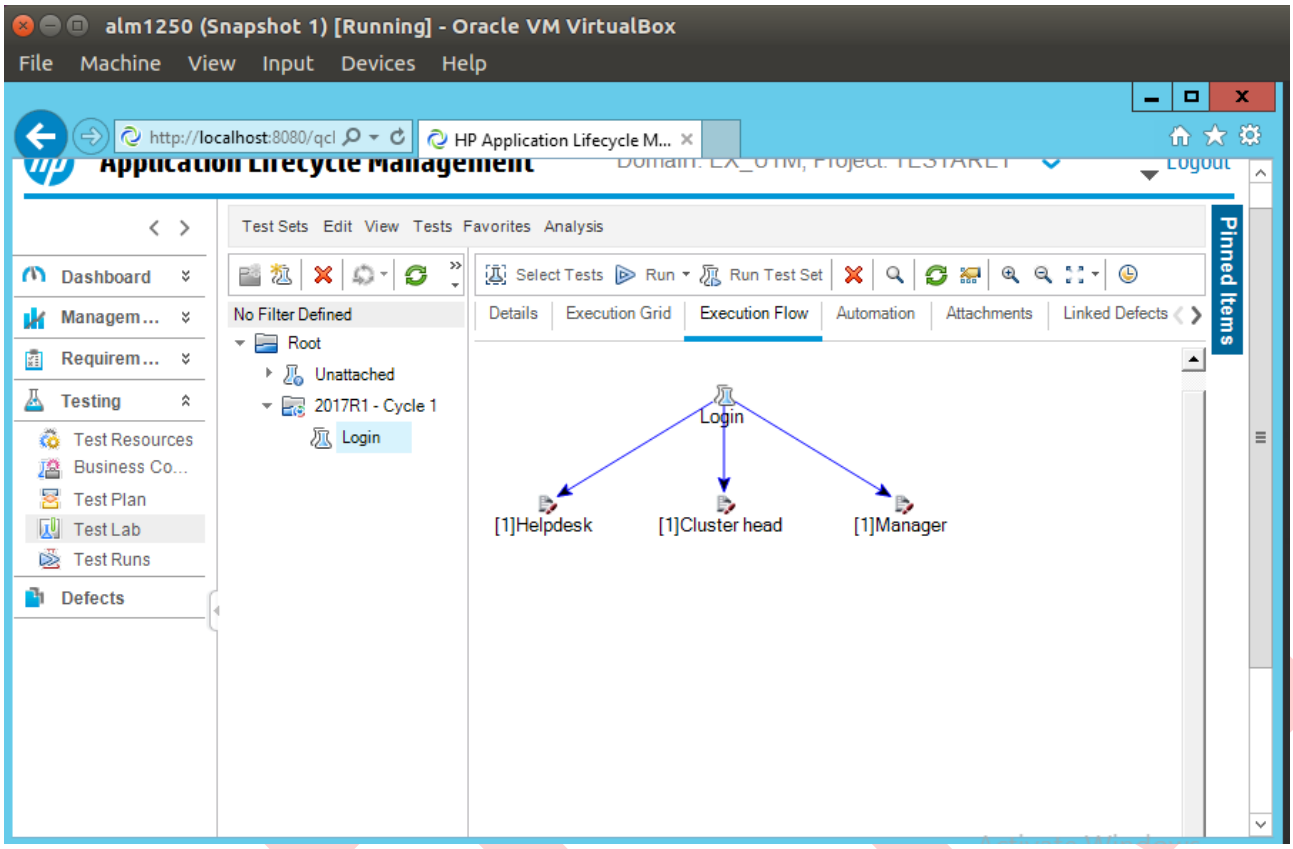


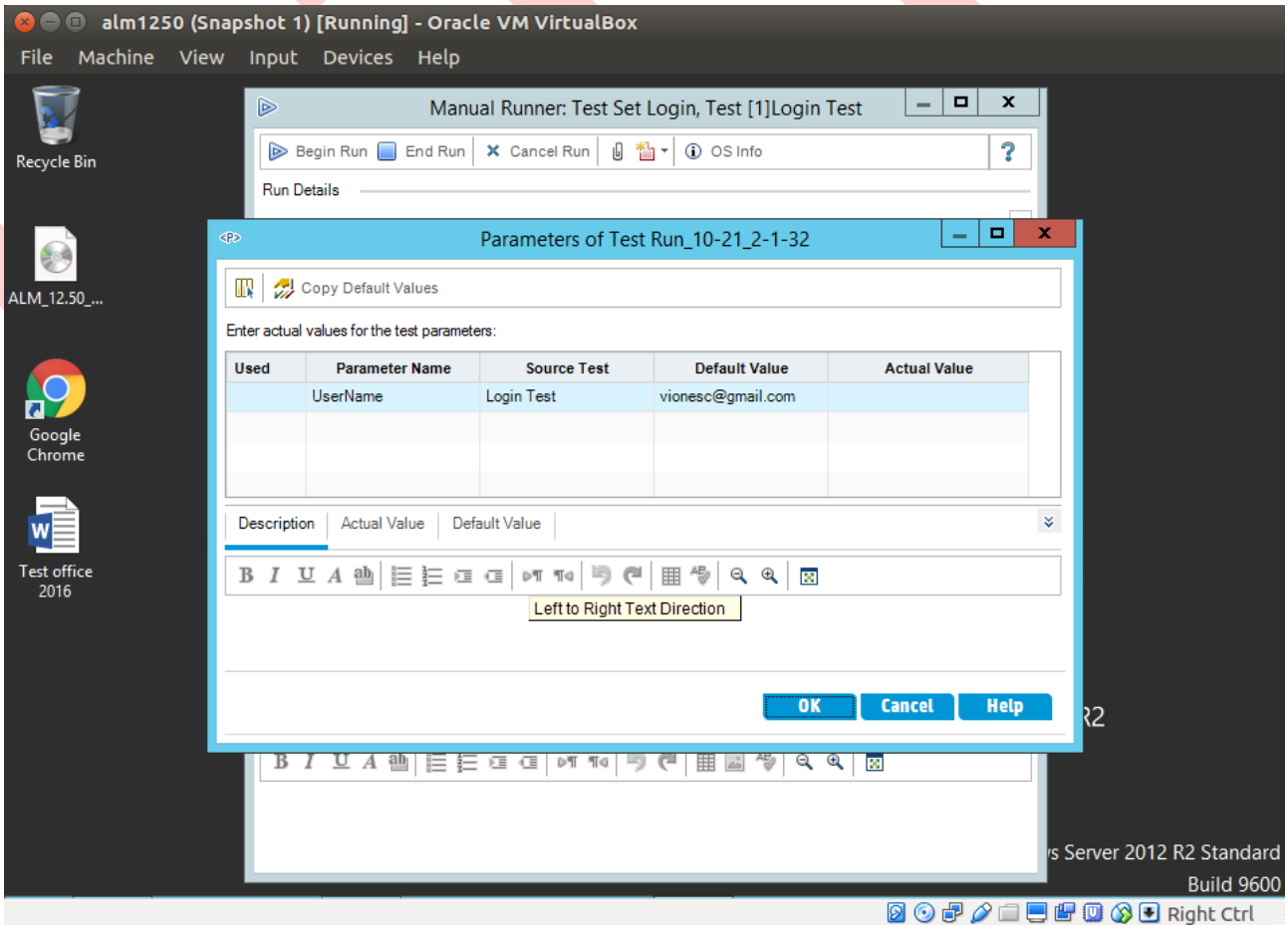

File Machine View Input Devices Help
http://localhost:8080/qcbir
HP Application Lifecycle M...
Dashboard
Managem...
Requirem...
Testing
Test Resources
Business Co...
Test Plan
Test Lab
Test Runs
Defects
Help
No Filter Defined
Root
Unattached
2017R1 - Cycle 1
Login
Sample
Details
Attachments
Live Analysis
Assigned to cycle:
Cycle start date:
Not Assigned
Cycle end date:
Not Assigned
Remaining days in cycle:
Not Assigned
Statistics:
Description

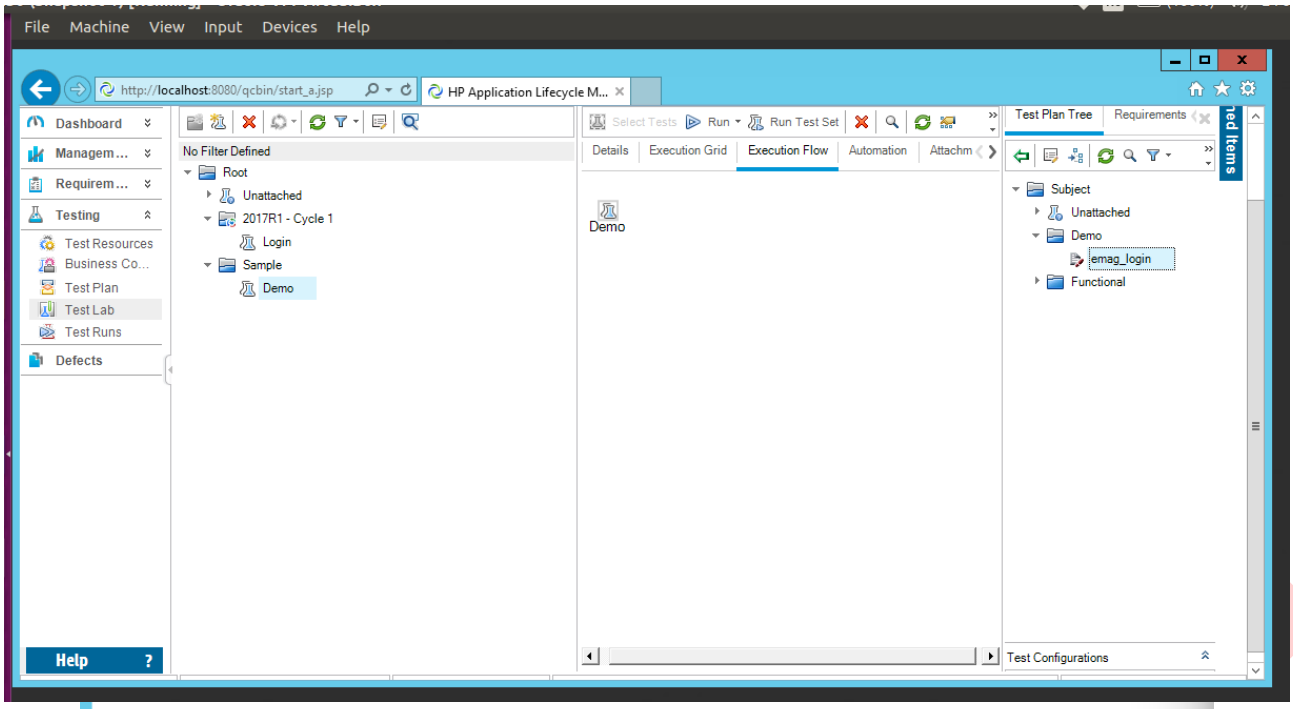

alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Recycle Bin
ALM_12.50_...
Google Chrome
Test office 2016
Manual Runner: Test Set Login, Test [1]Login Test
Begin Run
End Run
Cancel Run
OS Info
Run Details
Run Name:
Run_10-21_2-1-32
Status:
Not Completed
Test Instance:
[1]Login Test
Test Set:Name:
Login
Tester:
administrator
Baseline:
Change Detectio...
Change Status:
Configuration ID:
1001
Configuration: Na...
Login Test
Comments
Test Description
Add Comment
Test Details
Name: Login Test
Test Details
12 R2
Server 2012 R2 Standard
Build 9600
Right Ctrl


alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
http://localhost:8080/q
HP Application Lifecycle M...
Application Lifecycle Management
Domain: EX_UTM, Project: TESTARE1
Logout
Test Sets Edit View Tests Favorites Analysis
Dashboard
Managem...
Requirem...
Testing
Test Resources
Business Co...
Test Plan
Test Lab
Test Runs
Defects
No Filter Defined
Root
Unattached
2017R1 - Cycle 1
Login
Select Tests
Run
Run Test Set
Details
Execution Grid
Execution Flow
Auto
Login
[1]Login Test
Test Plan Tree
Require
Pinned Items
Subject
Unattached
Functional
Automation
Manual
Account
Bank Opera
Customer
Login
Login T
Non Functional
Windows Server 2012 R2 Standard
Build 9600
Right Ctrl


alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
http://localhost:8080/qcbir
HP Application Lifecycle M...
Dashboard
Managem...
Requirem...
Testing
Test Resources
Business Co...
Test Plan
Test Lab
Test Runs
Defects
Help
No Filter Defined
Root
Sample
New Test Set
Name: Demo
Type: Default
Details
Attachments
Details
Dynamic Data
Baseline:
Default Environme...
Open Date:
Target Cycle:
Close Date:
Modified:
Status:
Test Set Folder: Sample
Description
OK
Close
Help

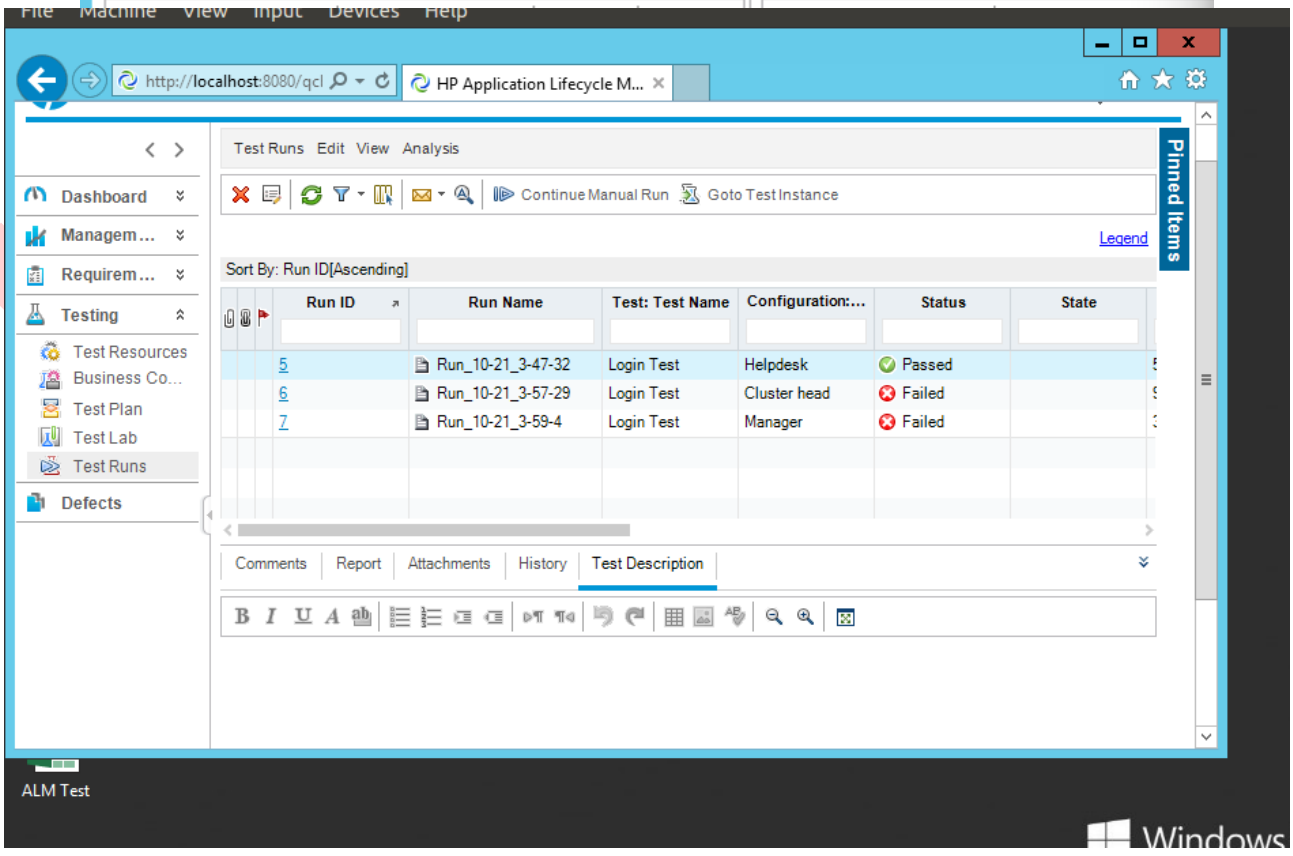

alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
http://localhost:8080/qcl
HP Application Lifecycle M...
Application Lifecycle Management
Logout
Test Sets Edit View Tests Favorites Analysis
Dashboard
Managem...
Requirem...
Testing
Test Resources
Business Co...
Test Plan
Test Lab
Test Runs
Defects
Select Tests Run Run Test Set
No Filter Defined
Root
Unattached
2017R1 - Cycle 1
Login
Details Execution Grid Execution Flow Automation Attachments Linked Defects
Pinned Items
Login
[1]Helpdesk
[1]Cluster head
[1]Manager

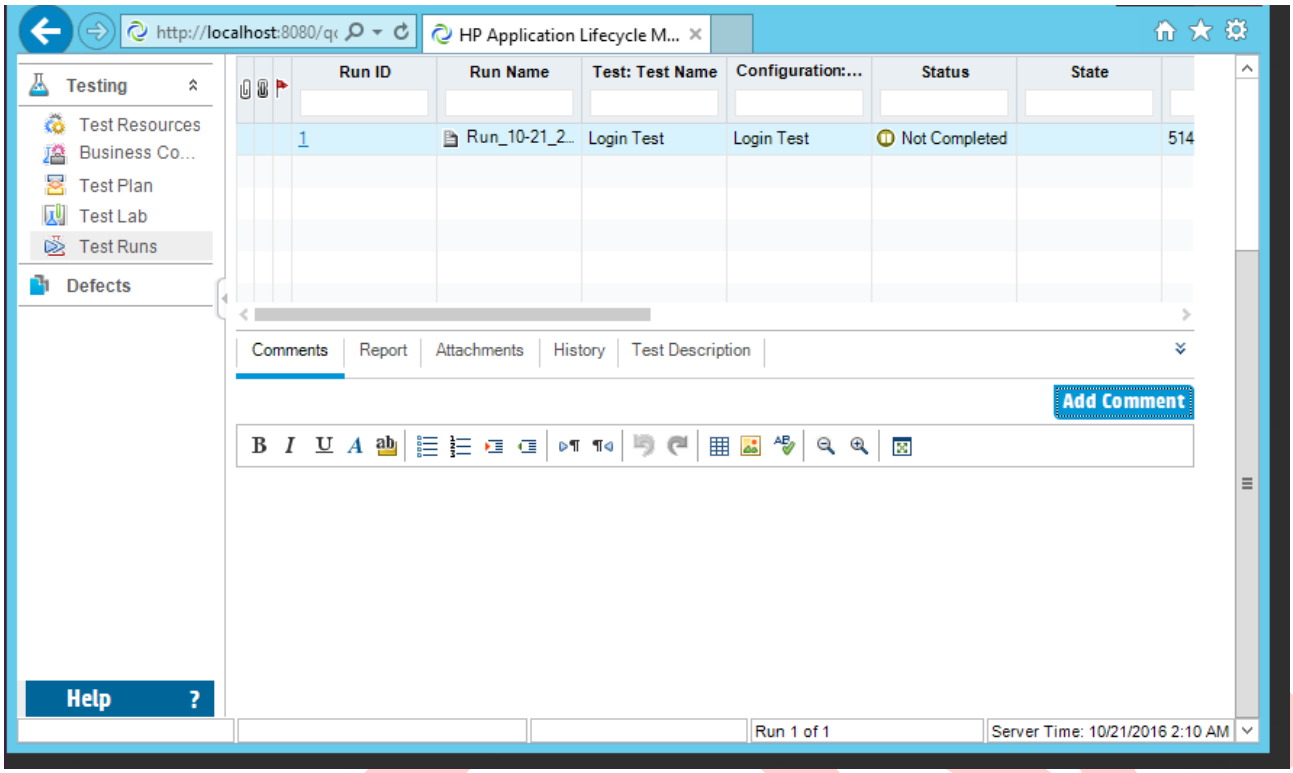

alm1250 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Recycle Bin
ALM_12.50_...
Google Chrome
Test office 2016
Manual Runner: Test Set Login, Test [1]Login Test
Begin Run End Run Cancel Run OS Info
Run Details
Parameters of Test Run_10-21_2-1-32
Copy Default Values
Enter actual values for the test parameters:
Used
Parameter Name
Source Test
Default Value
Actual Value
UserName
Login Test
vionesc@gmail.com
Description Actual Value Default Value
Left to Right Text Direction
OK Cancel Help
Server 2012 R2 Standard
Build 9600
Right Ctrl

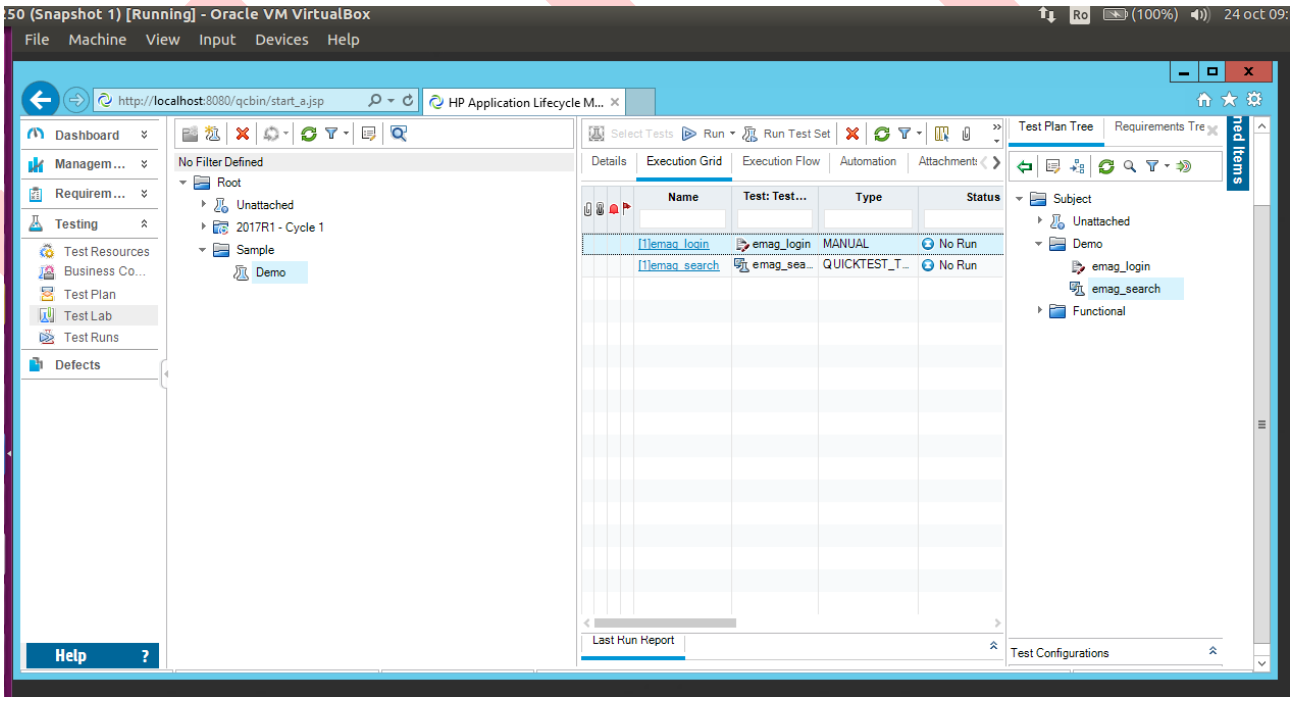


Expected:

Actual:




http://localhost:8080/q
HP Application Lifecycle M...
Testing
Test Resources
Business Co...
Test Plan
Test Lab
Test Runs
Defects
Help
Run ID
Run Name
Test: Test Name
Configuration:...
Status
State
1
Run_10-21_2...
Login Test
Login Test
Not Completed
514
Comments
Report
Attachments
History
Test Description
Add Comment
Run 1 of 1
Server Time: 10/21/2016 2:10 AM


50 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
http://localhost:8080/qcbin/start_a.jsp
HP Application Lifecycle M...
Dashboard
Managem...
Requirem...
Testing
Test Resources
Business Co...
Test Plan
Test Lab
Test Runs
Defects
Help
No Filter Defined
Root
Unattached
2017R1 - Cycle 1
Sample
Demo
Select Tests
Run
Run Test Set
Details
Execution Grid
Execution Flow
Automation
Attachment
Name
Test: Test...
Type
Status
[1]emag_login
emag_login
MANUAL
No Run
[1]emag_search
emag_sea...
QUICKTEST_T...
No Run
Last Run Report
Test Plan Tree
Requirements Tre
Subject
Unattached
Demo
emag_login
emag_search
Functional
Test Configurations

Advantages of Cucumber over other tools?

Cucumber	HP ALM (QTP)	Selenium
• It is free	• QTP is expensive	• It is free
• It's a behavior driven development tool	• It's a Functional Automation Tool	• It's a Functional and Performance (Selenium Grid) test tool
• Plugin in cucumber works faster	• Plugin are slower compare to Cucumber and Selenium	• Plugins are slower than cucumber
• Cucumber supports other language as well beyond Ruby like Java, Scala, Groovy etc.	• QTP supports only VB script	• Selenium supports Java, .Net and many other languages
• Writing automation steps are joint effort of testers and developer	• In QTP only tester writes automation steps	• Like Cucumber, writing automation steps are joint effort of testers and developer
• Cucumber supports only web environment	• Support web, desktop and any client server application	• Supports only web environment