Working in collaboration to get Tosca running with on-demand pipelines

TTC & LINZ

Prepared By: Carl Ellis

Introduction and Acknowledgements

Carl Ellis

Principal Consultant TTC

17 Years in Finance, 13 of those years have been testing
and 5 of those years has been automating using Tosca

This was a collaboration of efforts involving these Test Automation Engineers

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Fabio Santoro LINZ

Joseph Tacuyan Deloitte

ttc

Background

Tosca at LINZ is being used to automate a UI front end to validate a databases migration.
With Tosca we know that we can use the same automation to test a client built and configured for either backend database.

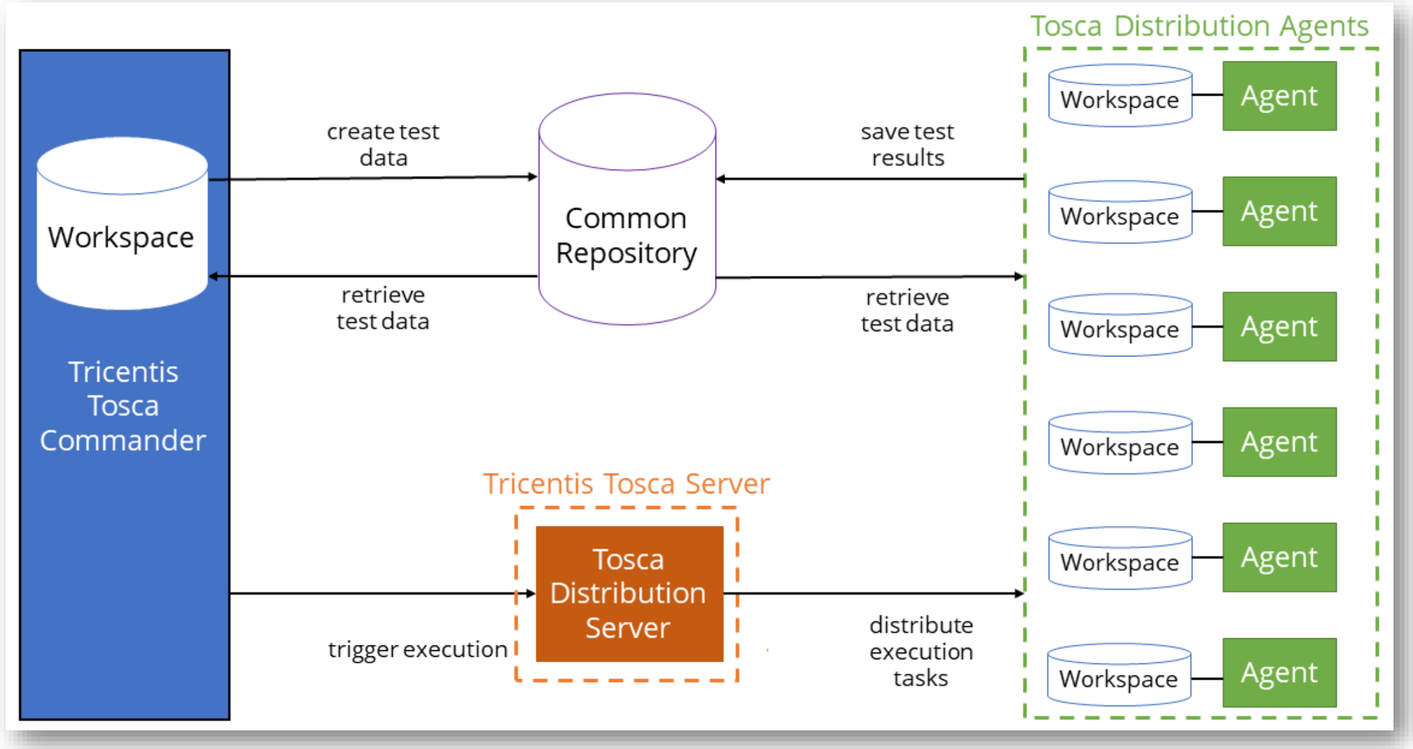
This is the journey we went though to get the Tosca pipelines up and running.

Journey Plan

Developing Automation Locally

- This is what we are used to
- The SUT is not easy to automate but…

- We have previous project work running in other areas using the Tosca Distributed Execution service (DEX) with on prem virtual machines.



Developing Automation on AWS EC2 Instances

- I’ve found that it’s best to work within a virtual machine when developing automation as it frees up your local machine

- Development of tests couldn’t start as they were unable to connect to various Tosca services or the Tosca repository due to firewall rules. The client and databases also needed firewall changes.

- When running tests we noticed that they started failing and it seemed to be due to additional latency when running from our AWS instances which are hosted in Sydney.

Journey changes…

Getting the Tosca Local Repository working within AWS

- We needed the Tosca Commander installed on the AWS instances as we were running modules from the classic engine so assumed we would need the Tosca repository as part of the base AWS image for it to work when running the Tosca DEX Agent.

- When having the Tosca repository as part of the base image of AWS we ended up getting issues with Tosca knowing that the repository is a clone when we spun up additional images

  Unable to proceed! Another workspace, which is a copy of this one, committed changes earlier.
  You will not be able to access the common repository through this workspace.

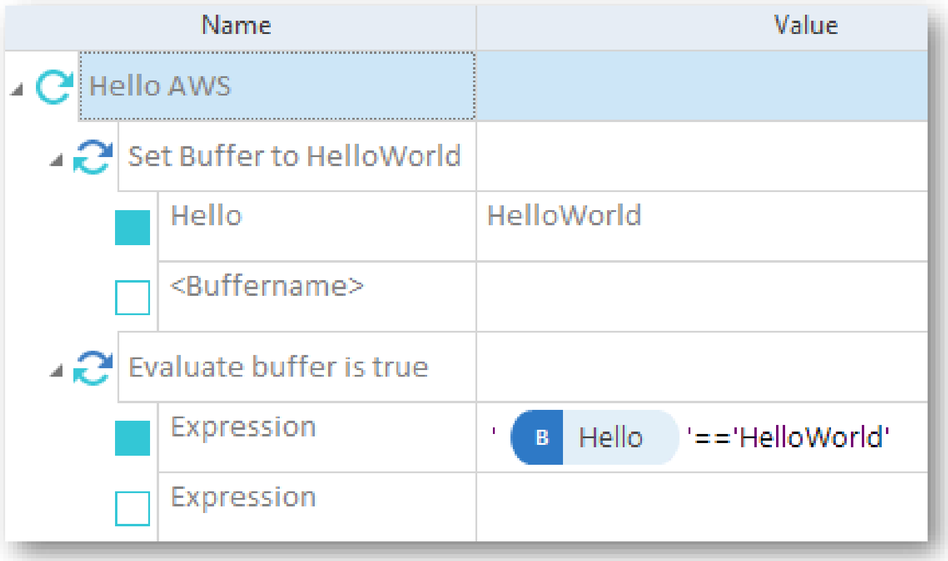
- Another issue was that we didn't want to consume space online and it would most likely be a time consuming exercise preparing a Tosca repository on the fly within the pipelines. Another issue is that it might introduce security issues by storing sensitive test data within an offshore data center

- We talked to people back at TTC and was advised to look into setting up AOS to see if that would help the situation

Another story added

Getting the Tosca Distribution Agent working within AWS

- Created a mini test as an event for the Jenkins pipeline to prove that the Tosca solution works.
- Fabio and Joseph quickly realised issues with getting the Tosca DEX Agent working in the Jenkins/AWS pipeline as they built the AWS instance to run headless at least initially
- Create a solution where the security details are known for the AWS instance and the Tosca DEX Agent and insert those as encrypted strings into the configuration file.
- Changed the pipeline so it logs a user into the OS



Getting the Tosca Distribution Agent working in AWS Cont…

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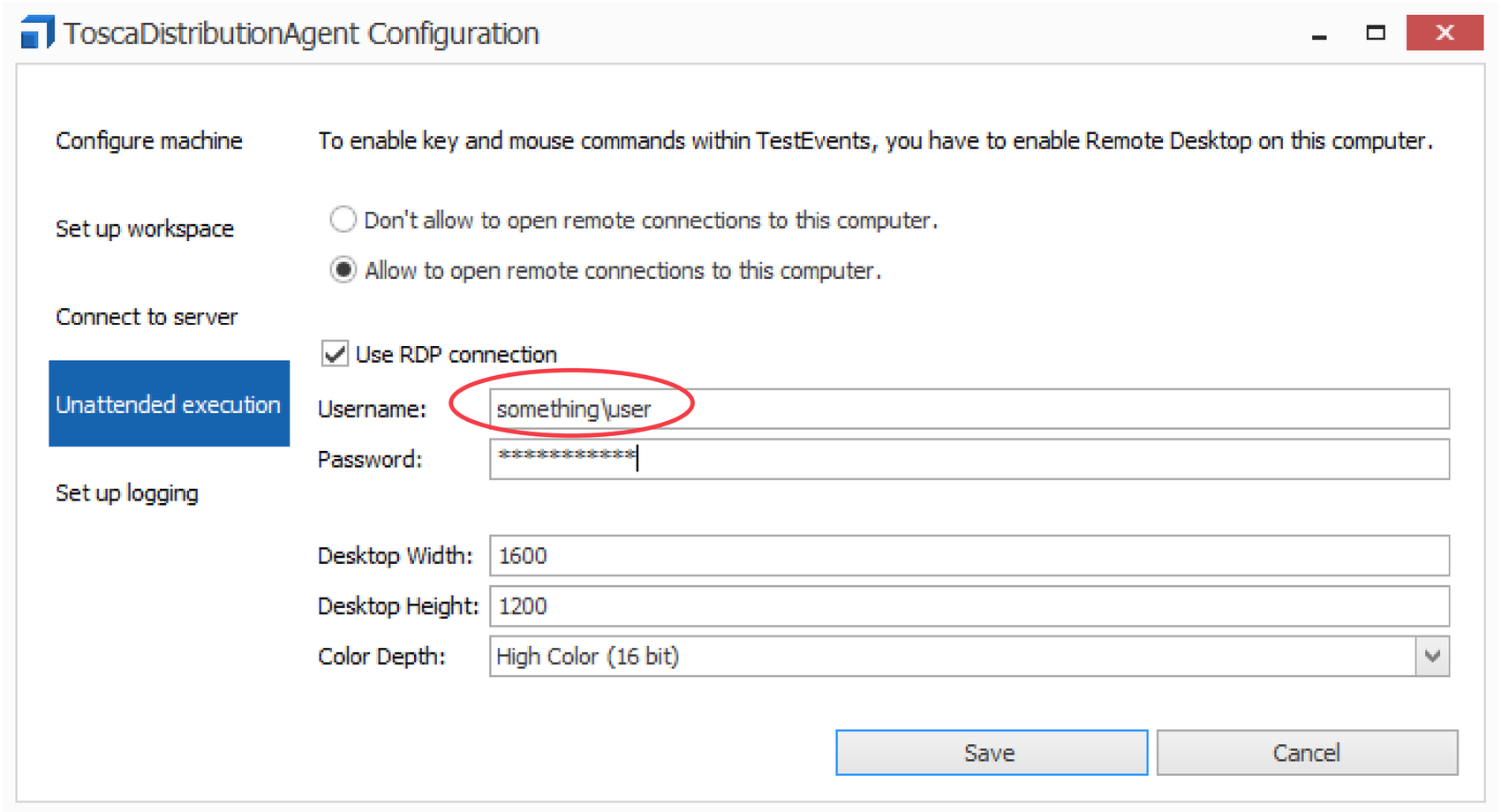
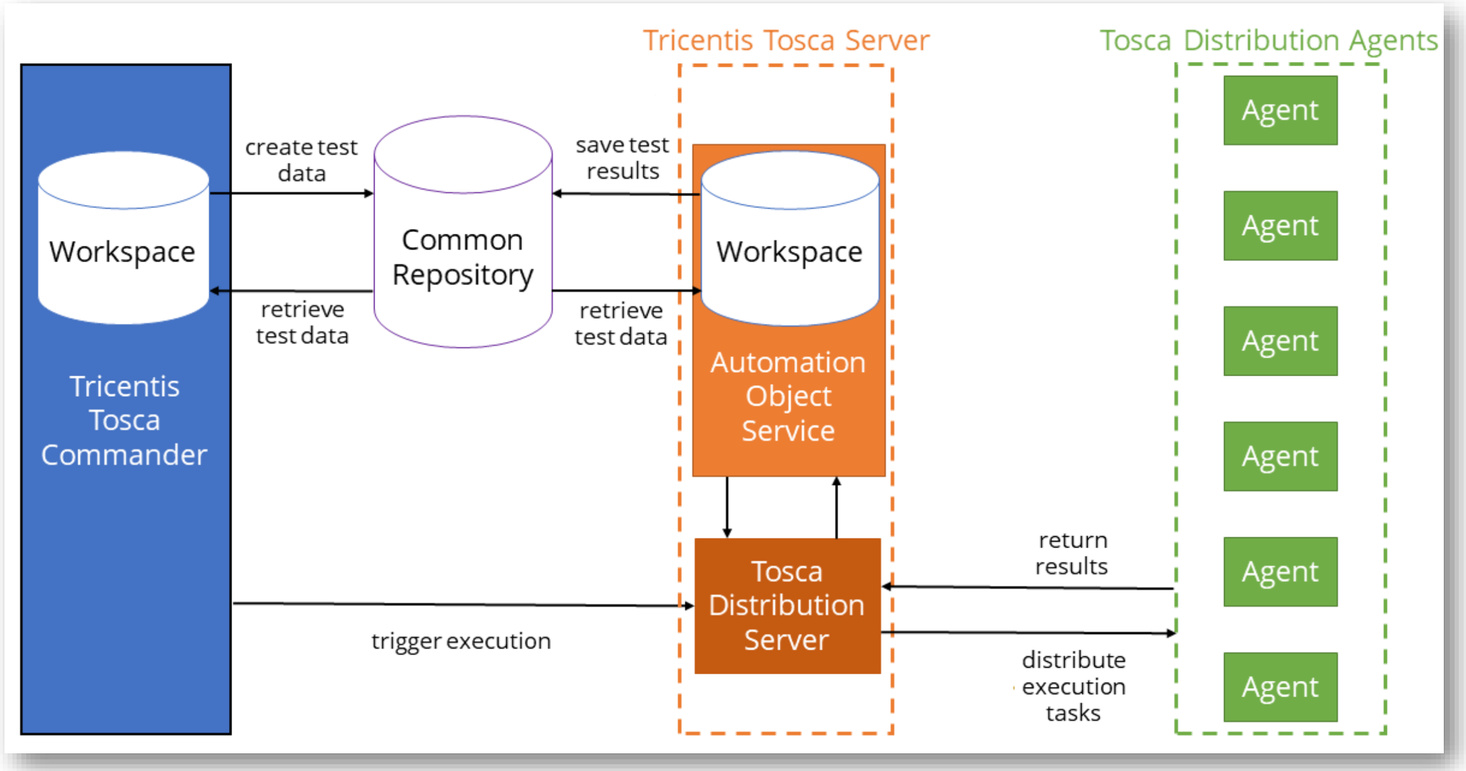
Frustrated I tried…
Klsdfljsrl\user
and it worked

settled on
localhost\user



Overcame big hurdles

Set up AOS (Automation Object Service)

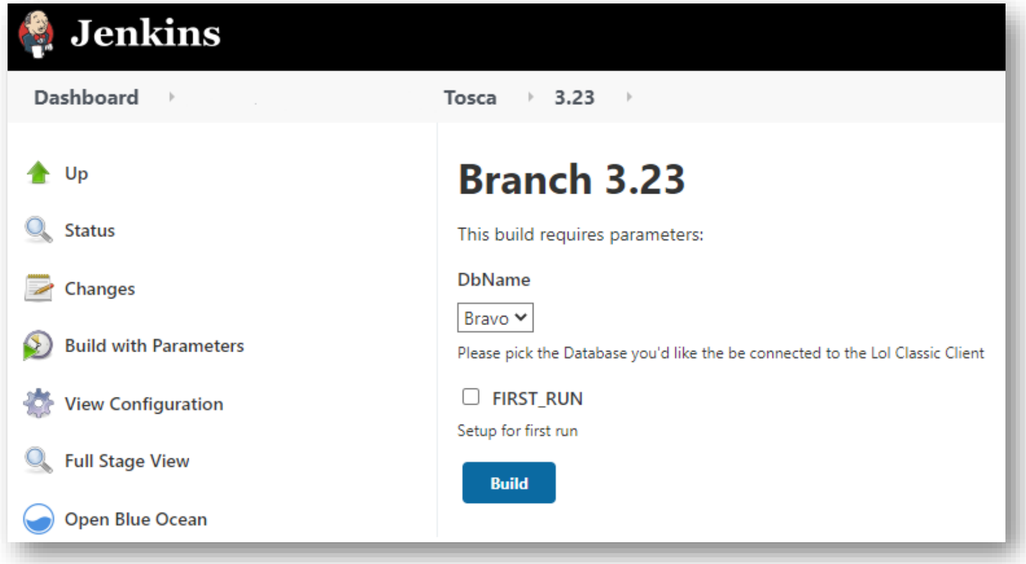


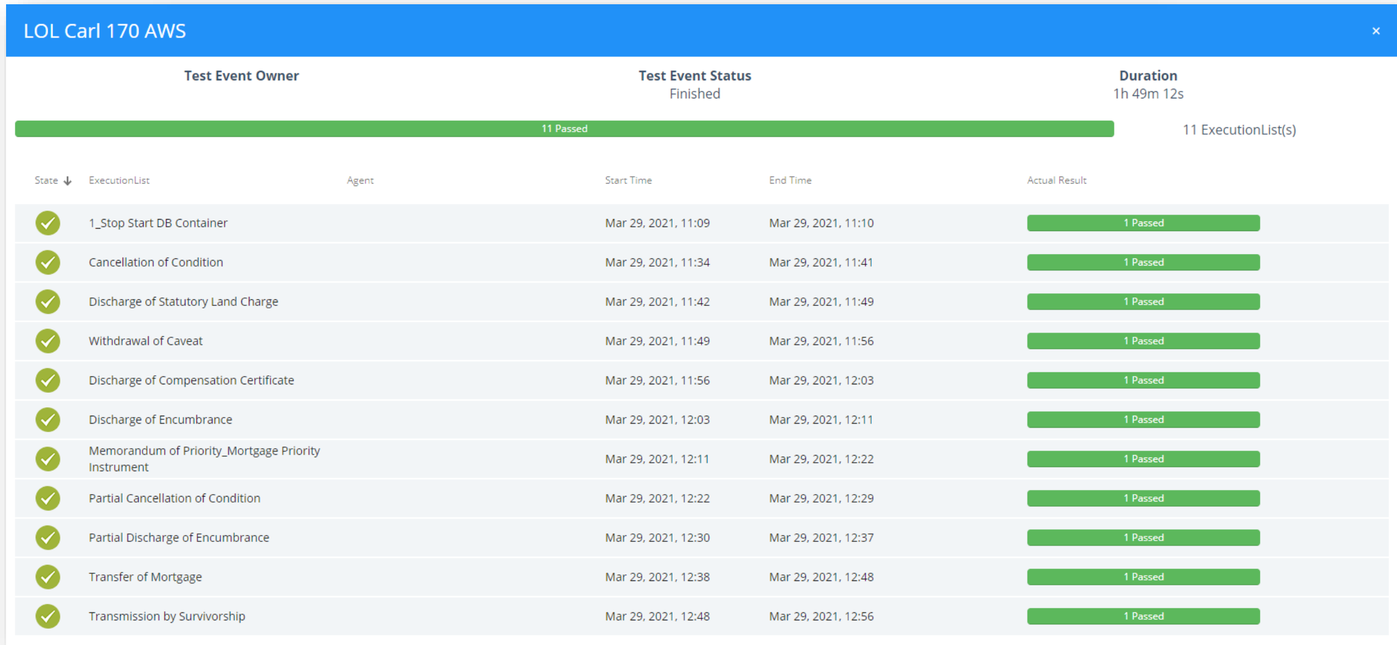
- Setting up AOS isn't hard. Follow the instructions
- More changes need to our firewalls
- Make sure you update Tosca Distribution Agents and supporting pipeline configurations
- I find it great from an audit point of view as it's hard to remove test execution runs with AOS
- Only downside is that it takes a moment to download the assets to host machine at run time as it is not the whole repository

Over halfway

Running SUT within the pipeline

- Now we can start running our tests within the pipeline proper.
- RDP is now turned on within the Tosca DEX agents.
- Noticed that with RPD turned on that test steps involving classic modules that drove tables started failing.
- We had further performance issues that required additional wait on’s and while loops to be added.





Journey almost complete

Main Rocks

- Getting the Tosca Distribution Agent working within AWS
- Tosca repository working within AWS – Then using AOS
- Latency with AWS in Sydney
- DEX/RDP behave differently than when running tests locally
- Firewalls

Learnings

- Try to get to your end state as quickly as possible. With as little assets as you can get away with.
- It’s a good idea to share the load of work between people. New ideas and solutions can be discovered earlier.

Discussion & Questions

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