Integration with Concourse

Concourse is a CI/CD tool available on-premises, highly focused on pipelines.

Xray does not provide a specific plugin for Concourse. However, similarly to CircleCl, Gitlab and other tools, it is easy to configure a pipeline and integrate it with Xray.

For this, you may simply take advantage of Xray's REST API for submitting results for example.

- JUnit example
- References

JUnit example

In this scenario, we want to get visibility of the automated test results from some tests implemented in Java, using the JUnit framework.

This recipe could also be applied for other frameworks such as NUnit, TestNG or Robot.

The tests are implemented in a JUnit class (stored in a git repository) as follows.

CalcTest.java

```
package com.xpand.java;
import org.junit.After;
import org.junit.Before;
import org.junit.Test;
import static org.hamcrest.CoreMatchers.is;
import static org.junit.Assert.assertThat;
public class CalcTest {
   @Before
   public void setUp() throws Exception {
    }
   @After
   public void tearDown() throws Exception {
    }
       @Test
    public void CanAddNumbers()
    {
        assertThat(Calculator.Add(1, 1), is(2));
       assertThat(Calculator.Add(-1, 1), is(0));
    }
   @Test
   public void CanSubtract()
    {
       assertThat(Calculator.Subtract(1, 1), is(0));
       assertThat(Calculator.Subtract(-1, -1), is(0));
       assertThat(Calculator.Subtract(100, 5), is(95));
    }
    @Test
   public void CanMultiply()
    {
        assertThat(Calculator.Multiply(1, 1), is(1));
       assertThat(Calculator.Multiply(-1, -1), is(1));
       assertThat(Calculator.Multiply(100, 5), is(500));
    }
    public void CanDivide()
    {
       assertThat(Calculator.Divide(1, 1), is(1));
       assertThat(Calculator.Divide(-1, -1), is(1));
       assertThat(Calculator.Divide(100, 5), is(20));
    }
   @Test
   public void CanDoStuff()
    {
       assertThat(true, is(true));
    }
}
```

What concerns Concourse itself, we start by setting up a pipeline based on a YAML configuration file.

pipeline.yml
resources:
- name: repo
type: git
source:
uri: https://example.com/java-junit-calc.git
username: john
password: xxxxxxx
- get : tepo
nlatform: linux
image resource:
type: docker-image
source:
repository: mayen
inputs:
- name: repo
run:
path: bash
args:
c
-
set -e
cd repo/java-junit-calc
mvn test
curl -H "Content-Type: multipart/form-data" -u admin:admin -F "file=@target/surefire-reports/TEST-com.
<pre>xpand.java.CalcTest.xml" "http://jiraserver.example.com/rest/raven/1.0/import/execution/junit?projectKey=CALC"</pre>

Note that this file is just an example; you should avoid hardcoded usernames, passwords in the .yml file.

In order to submit test results, we'll just need to invoke the REST API (as detailed in Import Execution Results - REST).

We're using "curl" utility that comes in Unix based OS'es but you can easily use another tool to make the HTTP request; however, "curl" is provided in most Docker images.

Please note

The Jira user (i.e. username and password) mentioned in the configuration below must exist in the Jira instance and have permission to Create Test and Test Execution Issues.

After preparing the pipeline configuration file, it needs to be submitted to Concourse.

fly -t tutorial set-pipeline -p java-junit-calc -c pipeline.yml

You can open your browser (e.g. http://127.0.0.1:8080/teams/main/pipelines/java-junit-calc/jobs/tests/) and execute/check the execution progress there.

$\leftrightarrow \rightarrow G$	127.0.0.1:8080/teams/main/pipelines/java-junit-calc/jobs/tests/builds/1	☆
=	•📲 java-junit-calc / <> tests	
tests	started 27m 2s ago #1 finished 25m 19s ago duration 1m 43s	
1		
16.20.11	Downloadad from control: https://roop.mouon.apacha.arg/mouon2/org/apacha/mouon/hlugin_tools/mouon_hlugin_apact	ation
>_ mvn-tes	st	
16:20:11	Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/1.5.15/plexus-u	tils-
16:20:11	Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit4/2.19.	1/sur
16:20:11	Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit4/2.19.1	/sure
16:20:11	Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-providers/2.	19.1
16:20:11	Downloaded from central: https://repo.maven.apache.org/maven/Jorg/apache/maven/surefire/surefire/providers/2.1	9.1/9
16.20.11	Downloaded from central. https://iepo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit4/2.15.	/sure
16:20:11		/ 5410
16:20:11		
16:20:11		
16:20:12		
16:20:12	Running com.xpand.java.CalcTest	
16:20:12	Tests run: 4, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.065 sec - in com.xpand.java.CalcTest	
16:20:12		
16:20:12	Results :	
16:20:12	Tasts run. 4. Failurge, 0. Errors, 0. Skinned, 0.	
16:20:12		
16:20:12	[INF0]	
16:20:12	[INFO] BUILD SUCCESS	
16:20:12	[INF0]	
16:20:12	[INFO] Total time: 01:01 min	
16:20:12	[INFO] Finished at: 2019-10-24T15:20:12Z	
16:20:38	[INFO]	

And in Xray, in this case, we'll have a new Test Execution containing the results of the automated tests.

Execution results - TEST-com.xpand.java.CalcTest.xml - [1571261027162]										
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Details										
Туре:	Test Execution			Status:	RESOL	VED (View Workflow)				
Affects Version/s:	None			Resolution:	Fixed					
Component/s:	None			Fix Version/s:	None					
Labels:	None									
Test Environments	None None									
Test Plan:	None									
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1	CALC-4681	CanDoStuff	Generic	0	0	Administrator	PASS		•••	
2	CALC-1204	CanMultiply	Generic	0	0	Administrator	PASS		•••	
3	CALC-1205	CanSubtract	Generic	0	0	Administrator	PASS		•••	
4	CALC-1202	CanAddNumbers	Generic	1	0	Administrator	PASS			
Showing 1 to 4 of 4	entries						First Prev	ious 1 Next	Last	

1

References

- https://concourse-ci.org/
 https://concoursetutorial.com/basics/basic-pipeline/