

# 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 [CircleCI](#), [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: xxxxxxxx

jobs:
- name: tests
  plan:
  - get: repo
    trigger: true
  - task: mvn-test
    config:
      platform: linux
      image_resource:
        type: docker-image
        source:
          repository: maven
      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.xpand.java.CalcTest.xml" "http://jiraserver.example.com/rest/raven/1.0/import/execution/junit?projectKey=CALC"
```

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.

```
127.0.0.1:8080/teams/main/pipelines/java-junit-calc/jobs/tests/builds/1
java-junit-calc / tests

tests #1
started 27m 2s ago
finished 25m 19s ago
duration 1m 43s

1
16:20:11 Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/1.5.15/plexus-utils-1.5.15.jar
16:20:11 Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit4/2.19.1/surefire-junit4-2.19.1.jar
16:20:11 Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit4/2.19.1/surefire-junit4-2.19.1.jar
16:20:11 Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-providers/2.19.1/surefire-providers-2.19.1.jar
16:20:11 Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-providers/2.19.1/surefire-providers-2.19.1.jar
16:20:11 Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit4/2.19.1/surefire-junit4-2.19.1.jar
16:20:11 Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit4/2.19.1/surefire-junit4-2.19.1.jar
16:20:11 -----
16:20:11 T E S T S
16:20:11 -----
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 Results :
16:20:12 Tests run: 4, Failures: 0, Errors: 0, Skipped: 0
16:20:12 [INFO] -----
16:20:12 [INFO] BUILD SUCCESS
16:20:12 [INFO] -----
16:20:12 [INFO] Total time: 01:01 min
16:20:12 [INFO] Finished at: 2019-10-24T15:20:12Z
16:20:38 [INFO] -----
{"testExecIssue":{"id":"35956","key":"CALC-5136","self":"http://192.168.56.102/rest/api/2/issue/35956"}}
```

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

Calculator / CALC-5136

Execution results - TEST-com.xpand.java.CalcTest.xml - [1571261027162]

EditCommentAssignMoreClose IssueReopen IssueAdmin

Details

Type:Test Execution

Affects Version/s:None

Component/s:None

Labels:None

Test Environments:None

Test Plan:None

Status:RESOLVED (View Workflow)

Resolution:Fixed

Fix Version/s:None

Description

Execution results imported from external source

Tests

Overall Execution Status

4PASS

TOTAL TESTS: 4

Filter(s)

Show 100 entriesColumns

Rank	Key	Summary	Test Type	#Req	#Def	Assignee	Status
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

FirstPrevious1NextLast

## References

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