

Continuous Testing

Matt Belcher



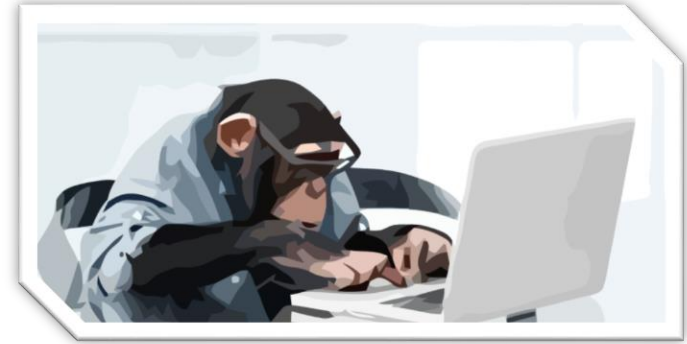
Lets get started...

- What is Test Automation?
- How does it work?
- Reporting
- The build pipeline
- Framework and design



What is Test Automation?

Simulates actions performed by customers, systems and services



Traditionally used purely for regression testing once a system had been built

Used as a tool to measure the quality of a system and prove that it's features are acceptable

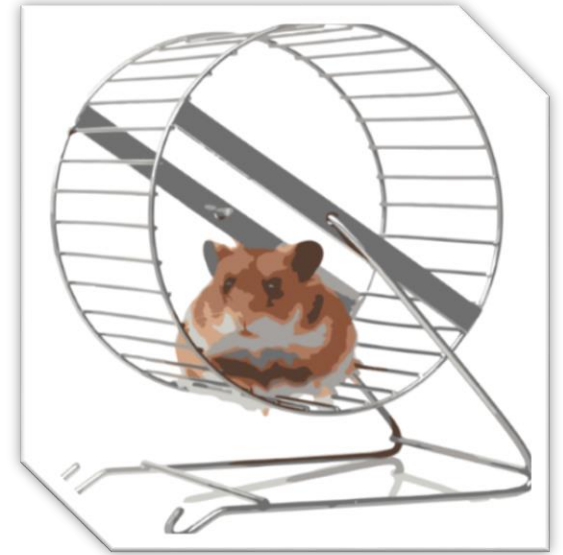


When should we Automate?

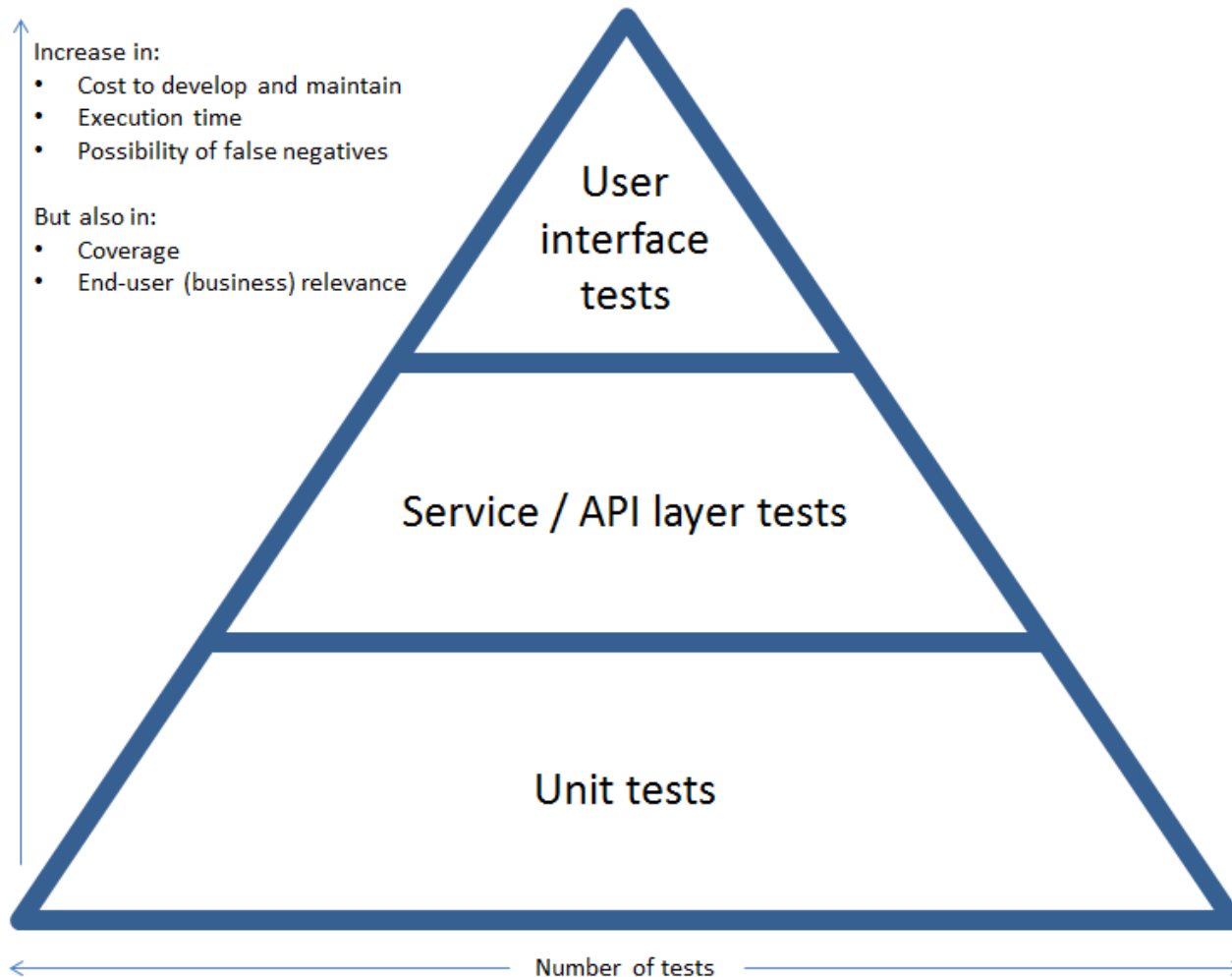
Automate from the beginning,
rather than the end

Test early, test often

Implement your automation as part of
the build pipeline as early as possible



What should we Automate?



► Tips - Getting started



- Set team goals, such as 100% coverage of acceptance criteria
- Collaborate - 3 amigos
- APIs are great areas to focus on, as they are usually fast and reliable



How does it work?

@story-123

Feature: Search on Google

As a customer

I want to be able to search on Google

So that I can find information in areas of interest

Scenario: Search for the ANZ TB website

Given I am on the home page

When I search for "anz testing board"

Then I should see some search results

@reference-456

Scenario: Search for the ANZ TB website and verify the results

Given I am on the home page

When I search for "anztb"

Then I should see some search results

And the search results should contain a link with the text "ANZTB - Australia & New Zealand Testing Board"



How does it work?

```
afor - [C:\Users\Matt\IdeaProjects\afor] - [afor-example] - ...\afor-example\src\test\resources\features\web\GoogleSearch.feature - IntelliJ ...
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

@story-123
Feature: Search on Google

  As a customer
  I want to be able to search on Google
  So that I can find information in areas of interest

  Scenario: Search for the ANZ TB website
    Given I am on the home page
    When I search for "anz testing board"
    Then I should see some search results

@reference-456
Scenario: Search for the ANZ TB website and verify the results
  Given I am on the home page
  When I search for "anztb"
  Then I should see some search results
  And the search results should contain a link with the text "ANZTB - Australia & New Zealand Testing Board"

  Then I should s
```


What if things change?

The screenshot displays the IntelliJ IDEA IDE interface. The top pane shows a Gherkin test scenario:

```
When I search for "anz testing board"
Then I should see some search results

@reference-456
Scenario: Search for the ANZ TB website and verify the results
  Given I am on the home page
  When I search for "anztb"
  Then I should see some search results
  And the search results should contain a link with the text "ANZTB - Australia & New Zealand Development Board"
```

The bottom pane shows the execution results for the scenario:

```
Run Example dev Single Scenario
All 4 tests passed - 1ms

1ms "C:\Program Files\Java\jdk1.8.0_74\bin\java" ...
Scenario: Search on Google 1ms
INFO: Trying to close the browser ChromeDriver ...
Scenario: Search for the A 1ms
Aug 02, 2016 11:15:49 PM com.codeborne.selenium.impl.WebDriverThreadLocalContainer closeWebD
INFO: Close webdriver: 1 -> ChromeDriver: chrome on XP (89122f1e5b3e2d090f220801f4e085de)
Given I am on the 1ms
Aug 02, 2016 11:15:49 PM com.codeborne.selenium.impl.WebDriverThreadLocalContainer$CloseBrow
When I search for 0ms
Then I should see 0ms
And the search re 0ms
Aug 02, 2016 11:15:50 PM com.codeborne.selenium.impl.WebDriverThreadLocalContainer closeWebD
INFO: Closed webdriver in 972 ms
@reference-456
```



Nuts and bolts

```
public class GoogleSteps {

    @Autowired
    GoogleView googleView;

    @Given("^I am on the home page$")
    public void I_am_on_the_home_page() throws Throwable {
        open("/");
    }

    @When("^I search for \"" + ([^\\"]*) + "\"$")
    public void I_search_for(String searchString) throws Throwable {
        googleView.search(searchString);
    }

    @Then("^I should see some search results$")
    public void I_should_see_some_search_results() throws Throwable {
        googleView.getResultStats().shouldBe(visible);
    }
}
```



► **Tips - Day to day basics**



- Use an automation tool which can be used by multiple team members in parallel
- Continuous testing is about ensuring continuous quality, it's a team activity
- Automation never sleeps - wait for conditions and events, rather than pausing execution

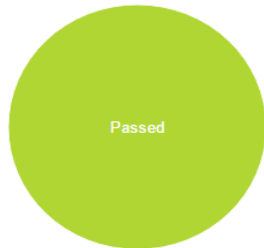


Reporting - Overview

Afor Example Report dev 19:00:00 11/Aug/2016

Summary

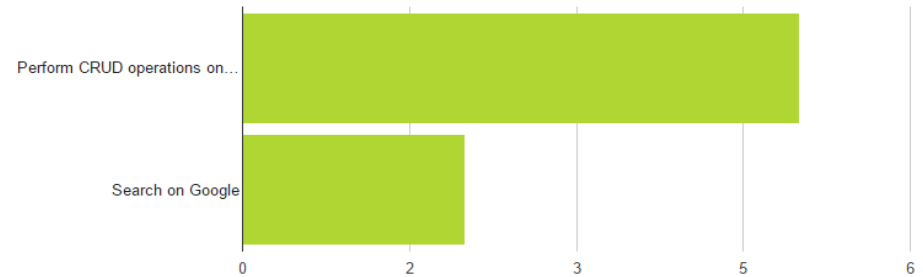
Scenario Results (7 in total)



● Passed

Feature Results (2 in total)

■ Passed ■ Failed



Feature Result Statistics

Feature	Passed	Failed
Perform CRUD operations on a RESTful API	5	0
Search on Google	2	0

Scenario duration (Total duration 26 seconds)



Breakdown

2 Features (2 passed, 0 failed, 0 undefined, 0 pending)
7 Scenarios (7 passed, 0 failed, 0 undefined, 0 pending)
22 Steps (22 passed, 0 failed, 0 undefined, 0 pending, 0 skipped)



Reporting - Details

Detailed Report

▼ @story-123 Feature: Search on Google

As a customer I want to be able to search on Google So that I can find information in areas of interest

▼ @reference-456 Scenario: Search for the ANZ TB website and verify the results

Given I am on the home page

When I search for "anztb"

Then I should see some search results

And the search results should contain a link with the text "ANZTB - Australia & New Zealand Development Board"

```
Element not found {h3.r a.filter(text 'ANZTB - Australia & New Zealand Development Board')}
Expected: visible
Screenshot: file:/C:/Users/Matt/IdeaProjects/afor/afor-example/build/reports/tests/1470137631677.0.png
Timeout: 6 s.
Caused by: java.lang.IndexOutOfBoundsException: Index: 0, Size: 0
    at com.codeborne.selenium.impl.CollectionElement.createElementNotFoundError(CollectionElement.java:40)
    at com.codeborne.selenium.impl.WebElementSource.checkCondition(WebElementSource.java:59)
    at com.intellij.junit4.JUnit4IdeaTestRunner.startRunnerWithArgs(JUnit4IdeaTestRunner.java:69)
    at com.intellij.rt.execution.junit.JUnit4Starter.prepareStreamsAndStart(JUnit4Starter.java:234)
    at com.intellij.rt.execution.junit.JUnit4Starter.main(JUnit4Starter.java:74)
    at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
    at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:62)
    at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
    at java.lang.reflect.Method.invoke(Method.java:498)
    at com.intellij.rt.execution.application.AppMain.main(AppMain.java:144)
```



All Images News Maps Videos More ▾ Search tools

About 9,580 results (0.39 seconds)

ANZTB - Australia & New Zealand Testing Board

www.anztb.org/ ▾

The Australia and New Zealand Testing Board (ANZTB) is the regional organisation representing testing professionals in the South Pacific Region.

ISTQB Certified Tester

ISTQB Certified Testers List ... To search for a certified tester ...

ANZTB Test 2015 Conference ...

ANZTB Test 2015 Conference in Auckland. View Judy McKay ...

Calendar

ISTQB Foundation Level



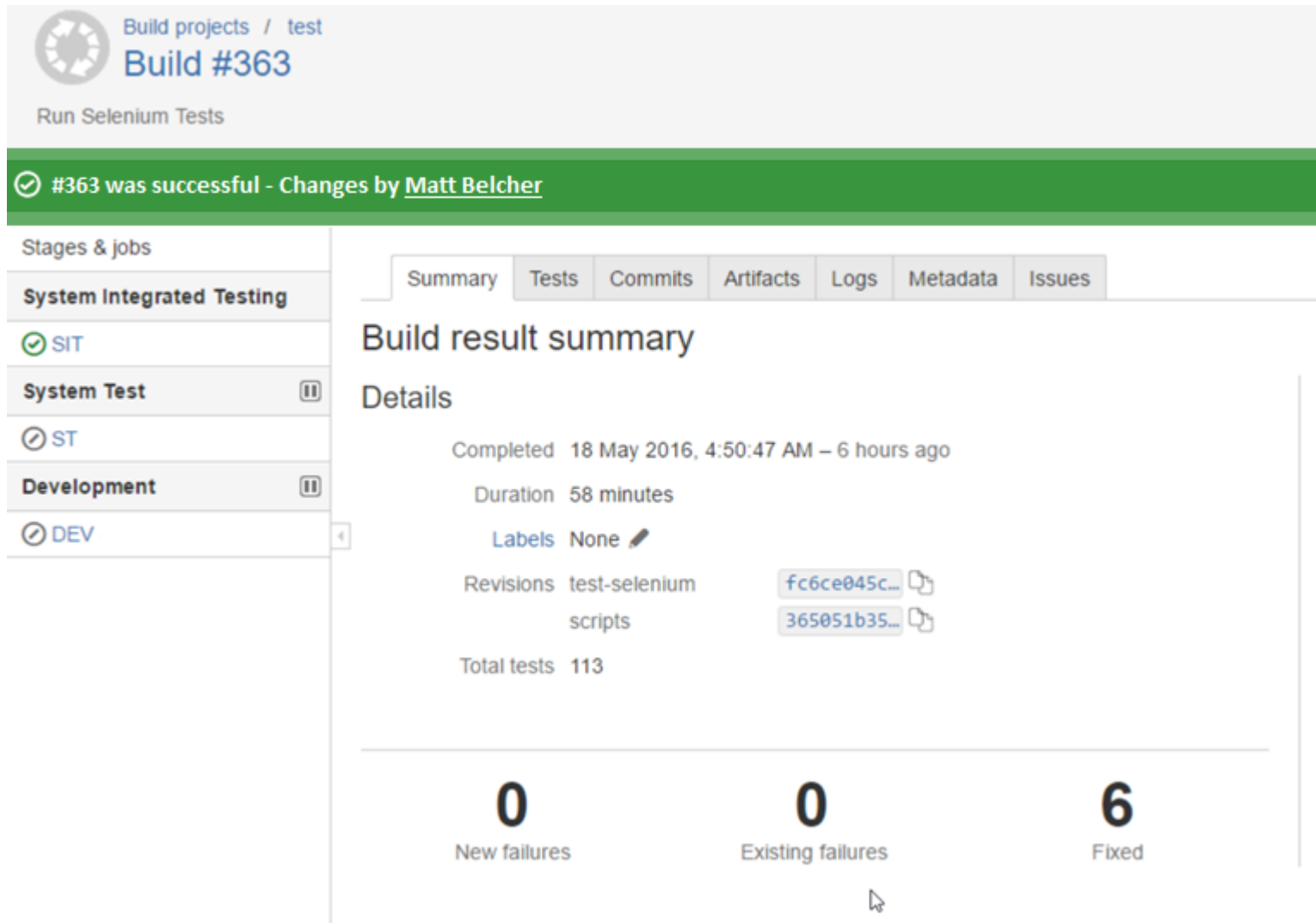
Tips - Reporting



- Focus on features and scenarios, rather than tests
- Visibility and simple understanding of reports is important to all members within and outside of the team
- Test data is sometimes less important than we are lead to believe - Generate data, but always verify



Bamboo integration



Build projects / test
Build #363
Run Selenium Tests

✔ #363 was successful - Changes by [Matt Belcher](#)

Stages & jobs

- System Integrated Testing
 - ✔ SIT
- System Test
- ST
- Development
- DEV

Summary Tests Commits Artifacts Logs Metadata Issues

Build result summary

Details

Completed 18 May 2016, 4:50:47 AM – 6 hours ago

Duration 58 minutes

Labels None

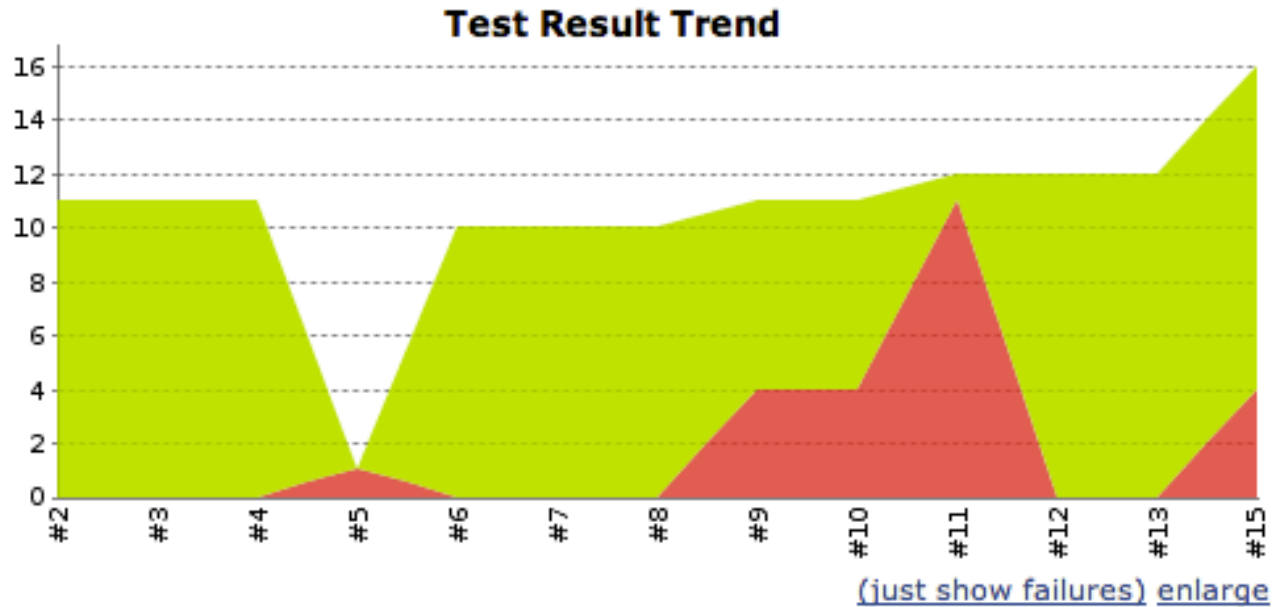
Revisions test-selenium [fc6ce045c...](#)
scripts [365051b35...](#)

Total tests 113

0 New failures **0** Existing failures **6** Fixed



Jenkins integration



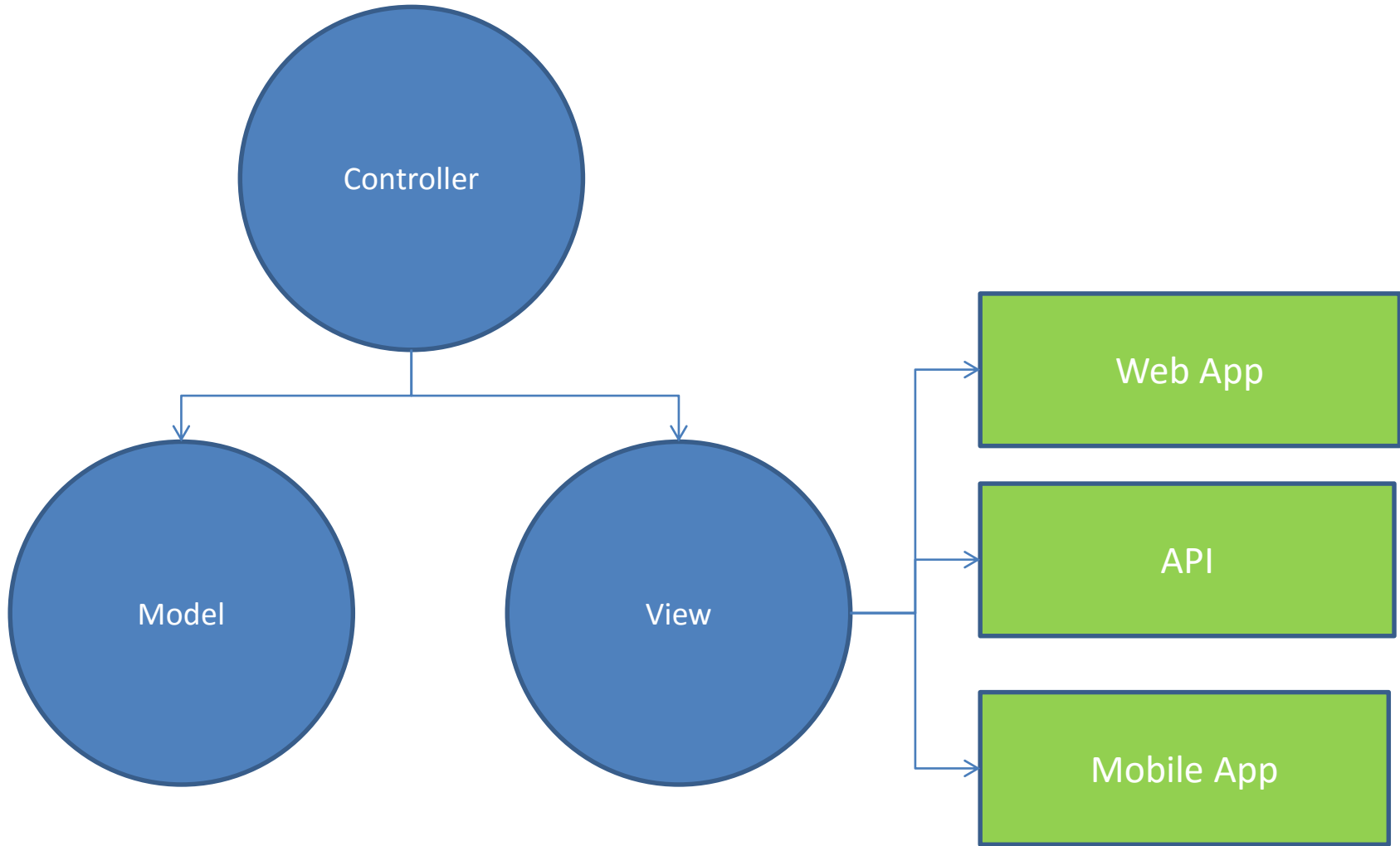
► Tips - Pipeline



- Start small, start reliable, start early
- Aim for a single package/asset, which flows through environments
- The automation is an asset, look after it and it will look after you



Model, View, Controller



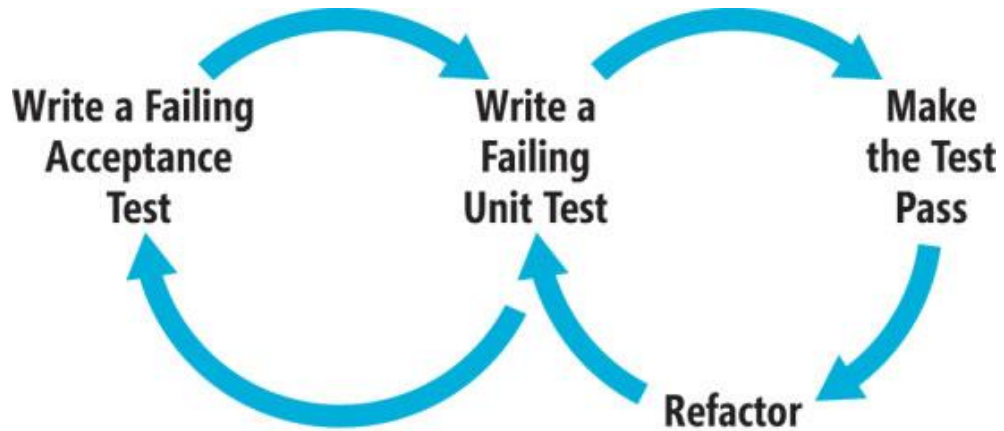
► **Tips - Framework design**



- Use relational data models - no more spreadsheets
- Use inheritance rather than copying and pasting
- Break down complexity into bite size chunks



Next steps



ANY QUESTIONS ...

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