

5.4 - Demonstrate the CI pipeline functions as expected

With the pipeline I currently have implemented, two kinds of failures are identified:

1. Maven build failures (errors in code syntax/semantics)
2. JUnit Test failures

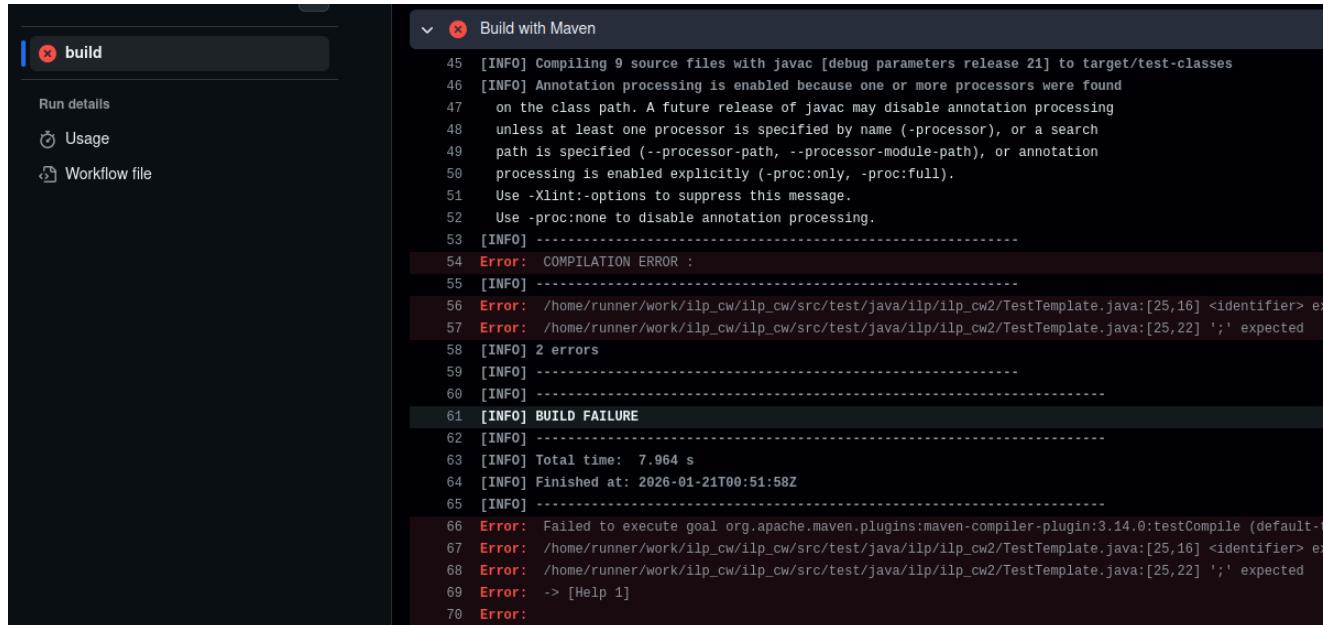
To demonstrate these two types, I've intentionally pushed both types of failure and included examples.

Build failure example

Here, I've intentionally pushed this extremely well written addition to a random file:

```
private foo = bar
```

This triggered my pipeline, as it was a push to master. This was the result:



The screenshot shows a CI pipeline interface with a sidebar on the left containing 'Run details', 'Usage', and 'Workflow file'. The main area is titled 'Build with Maven'. The log output is as follows:

```
45 [INFO] Compiling 9 source files with javac [debug parameters release 21] to target/test-classes
46 [INFO] Annotation processing is enabled because one or more processors were found
47 on the class path. A future release of javac may disable annotation processing
48 unless at least one processor is specified by name (-processor), or a search
49 path is specified (-processor-path, --processor-module-path), or annotation
50 processing is enabled explicitly (-proc:only, -proc:full).
51 Use -Xlint:-options to suppress this message.
52 Use -proc:none to disable annotation processing.
53 [INFO] -----
54 Error: COMPILATION ERROR :
55 [INFO] -----
56 Error: /home/runner/work/ilp_cw/ilp_cw/src/test/java/ilp/ilp_cw2/TestTemplate.java:[25,16] <identifier> e;
57 Error: /home/runner/work/ilp_cw/ilp_cw/src/test/java/ilp/ilp_cw2/TestTemplate.java:[25,22] ';' expected
58 [INFO] 2 errors
59 [INFO] -----
60 [INFO] -----
61 [INFO] BUILD FAILURE
62 [INFO] -----
63 [INFO] Total time: 7.964 s
64 [INFO] Finished at: 2026-01-21T00:51:58Z
65 [INFO] -----
66 Error: Failed to execute goal org.apache.maven.plugins:maven-compiler-plugin:3.14.0:testCompile (default-
67 Error: /home/runner/work/ilp_cw/ilp_cw/src/test/java/ilp/ilp_cw2/TestTemplate.java:[25,16] <identifier> e;
68 Error: /home/runner/work/ilp_cw/ilp_cw/src/test/java/ilp/ilp_cw2/TestTemplate.java:[25,22] ';' expected
69 Error: -> [Help 1]
70 Error:
```

As you can see, pushing code that won't build results in the action failing.

This is made clear both by the indicator at the top of the repository

A screenshot of a GitHub repository page for 'ilp_cw'. At the top, there's a 'Private' badge. Below it, a dropdown shows 'master' with a branch icon, followed by '1 Branch' and '0 Tags'. A search bar says 'Go to file' with a 't' icon. The main area shows a commit by 'Espian05' titled 'Set foo to bar' with a red 'X' icon. It includes two files: '.github/workflows' with a note 'Change the name of the workflow' and 'mvn/wrapper' with 'init' noted. The commit hash is '44d4'. The overall status is 'failing'.

and the tag at the top of the README

A screenshot of a GitHub repository page for 'ilp_cw'. The 'README' file is shown with a large 'README' title. Below it, a CI status badge is labeled 'failing' in red. The overall status is 'failing'.

Once this issue was removed, everything goes green again:

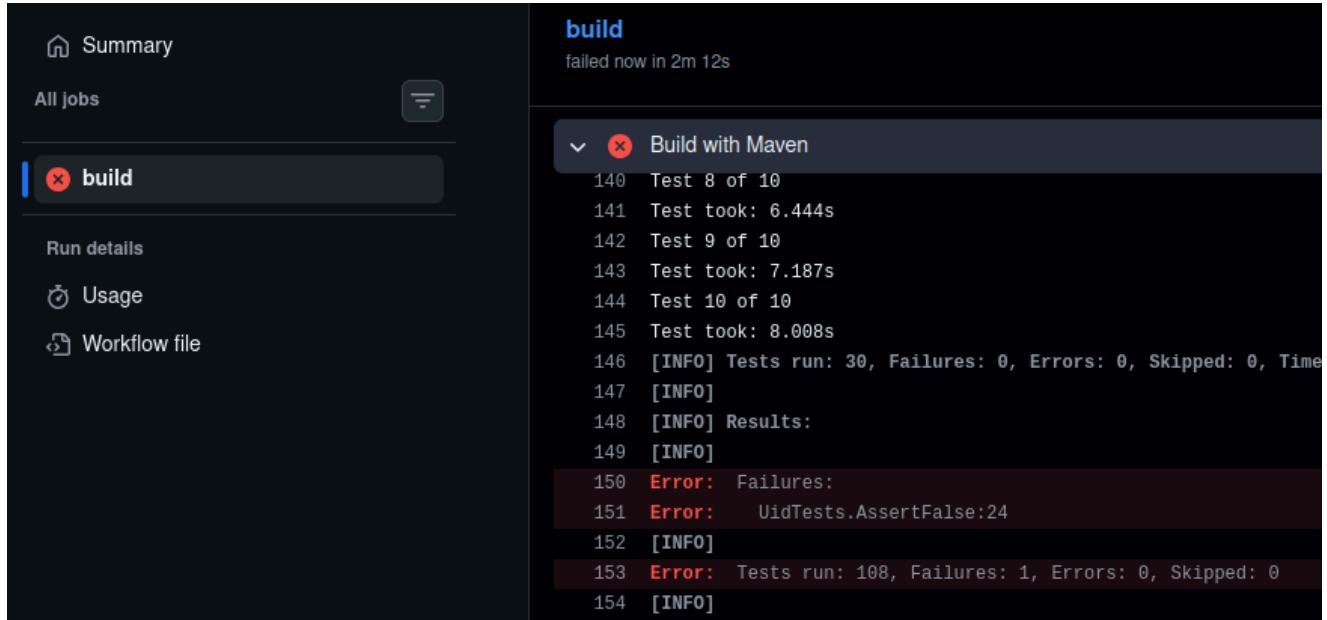
A screenshot of a GitHub repository page for 'ilp_cw'. The 'README' file is shown with a large 'README' title. Below it, a CI status badge is labeled 'passing' in green. The overall status is 'passing'.

Test failure example

Here I intentionally added this extremely important test to my suite:

```
@Test  
public void AssertFalse() {  
    assert(false);  
}
```

This results in a failed pipeline, as one of the tests failed:



The screenshot shows a CI pipeline interface. On the left, there's a sidebar with options like 'Summary', 'All jobs', and a selected 'build' job. The main area shows a 'build' step that has failed. The log output for this step is displayed, starting with some test results and then an error message at line 151.

```
build
failed now in 2m 12s

Build with Maven
140 Test 8 of 10
141 Test took: 6.444s
142 Test 9 of 10
143 Test took: 7.187s
144 Test 10 of 10
145 Test took: 8.008s
146 [INFO] Tests run: 30, Failures: 0, Errors: 0, Skipped: 0, Time
147 [INFO]
148 [INFO] Results:
149 [INFO]
150 Error: Failures:
151 Error: UidTests.AssertFalse:24
152 [INFO]
153 Error: Tests run: 108, Failures: 1, Errors: 0, Skipped: 0
154 [INFO]
```

This has the same effect as before across the board, but I to save the space I haven't be including screenshots of this erroneous push.