Here’s a step-by-step guide to add a test script for your TrafficLight Arduino library and set it up in your devops pipeline:

**1. Create a Test Directory**

Make a new folder at your repo root (if not present):  
tests or test

**2. Write an Example Test Sketch**

Create a file like test\_trafficlight.ino inside the test directory.  
Example:

#include <ArduinoUnit.h>

#include <TrafficLight.h>

test(trafficlight\_initial\_state) {

TrafficLight light;

assertEqual(light.getState(), RED); // Adjust if your API differs

}

void setup() { Test::run(); }

void loop() {}

**3. Add PlatformIO Support (Recommended for CI)**

Create a platformio.ini at the repo root if not present:

[env:uno]

platform = atmelavr

board = uno

framework = arduino

test\_ignore =

monitor\_speed = 9600

**4. Add a GitHub Actions Workflow**

name: Arduino Library CI

on:

push:

branches: [ main ]

pull\_request:

branches: [ main ]

jobs:

test:

runs-on: ubuntu-latest

steps:

- uses: actions/checkout@v4

- name: Set up Python

uses: actions/setup-python@v5

with:

python-version: '3.x'

- name: Install PlatformIO

run: pip install platformio

- name: Run PlatformIO Unit Tests

run: pio test pull\_request:

**5. Run Tests Locally**

If you use PlatformIO:

* Install PlatformIO: pip install platformio
* Run tests: pio test