# Part 3: GitHub CI/CD Pipeline Setup

The following YAML configuration sets up the CI/CD pipeline for a Flutter project:

```yaml
name: Flutter CI/CD

on:
  push:
    branches:
      - master
  pull_request:
    branches:
      - master

jobs:
  lint:
    runs-on: ubuntu-latest
    env:
      FORCE_JAVASCRIPT_ACTIONS_TO_NODE20: true
    steps:
      - name: Check out the code
        uses: actions/checkout@v3

      - name: Set up Flutter
        uses: subosito/flutter-action@v2
        with:
          flutter-version: "3.24.3"

      - name: Run Flutter Lint
        run: flutter analyze

  test:
    runs-on: ubuntu-latest
    needs: lint
    env:
      FORCE_JAVASCRIPT_ACTIONS_TO_NODE20: true
    steps:
      - name: Check out the code
        uses: actions/checkout@v3

      - name: Set up Flutter
        uses: subosito/flutter-action@v2
        with:
```

```
        flutter-version: "3.24.3"

    - name: Run Flutter Tests
      run: flutter test

build:
  runs-on: ubuntu-latest
  needs: test
  env:
    FORCE_JAVASCRIPT_ACTIONS_TO_NODE20: true
  steps:
    - name: Check out the code
      uses: actions/checkout@v3

    - name: Set up Flutter
      uses: subosito/flutter-action@v2
      with:
        flutter-version: "3.24.3"

    - name: Build APK
      run: flutter build apk --release

    - name: Build iOS
      run: flutter build ios --no-codesign
```

**Test Execution**

Upon triggering a new push or pull request to the `master` branch, the CI/CD pipeline will:

1. Lint the Flutter code to ensure code quality using the command `flutter analyze`.
2. Run all automated tests using the command `flutter test`.
3. Perform build verification by building APK and iOS builds (`flutter build apk --release` and `flutter build ios --no-codesign`).
4. Execute static analysis to ensure code is free from issues like warnings or errors.

**Screenshots of the linting and tests are below**

<> Code  ⊙ Issues  ⋮⟩ Pull requests  ⊙ Actions  ▦ Projects  ⊞ Wiki  🛡 Security  ⋈ Insights  ⚙ Settings

⚠ You only have a single verified email address. We recommend verifying at least one more email address to ensure you can recover your account if you lose access to your primary email.  Email settings  ✕

← Flutter CI/CD

✅ **update: flutter.yml** #7                                                  Re-run all jobs   ⋯

🏠 Summary

**Jobs**

✅ lint

✅ test

✅ build

**Run details**

⏱ Usage

⧉ Workflow file

❯ **Annotations**
  1 warning

**test**                                                    🔍 Search logs   ⟳  ⚙
succeeded 15 minutes ago in 55s

❯ ✅ Set up job                                                                        1s
❯ ✅ Check out the code                                                                1s
❯ ✅ Set up Flutter                                                                   31s
⌄ ✅ Run Flutter Tests                                                                18s

```
  1  ▸ Run flutter test
  8
  9
 10  ┌─────────────────────────────────────────────────────────────────┐
     │                  Welcome to Flutter! — https://flutter.dev        │
 11  │                                                                   │
 12  │ The Flutter tool uses Google Analytics to anonymously report feature usage │
 13  │ statistics and basic crash reports. This data is used to help improve │
 14  │ Flutter tools over time.                                          │
 15  │                                                                   │
 16  │ Flutter tool analytics are not sent on the very first run. To disable │
 17  │ reporting, type 'flutter config --no-analytics'. To display the current │
 18  │ setting, type 'flutter config'. If you opt out of analytics, an opt-out │
 19  │ event will be sent, and then no further information will be sent by the │
 20  │ Flutter tool.                                                     │
 21  │                                                                   │
 22  │ By downloading the Flutter SDK, you agree to the Google Terms of Service. │
 23  │ The Google Privacy Policy describes how data is handled in this service. │
 24  │                                                                   │
 25  │ Moreover, Flutter includes the Dart SDK, which may send usage metrics and │
 26  │ crash reports to Google.                                          │
 27  │                                                                   │
 28  │ Read about data we send with crash reports:                       │
 29  │ https://flutter.dev/to/crash-reporting                            │
 30  │                                                                   │
 31  │ See Google's privacy policy:                                      │
 32  │ https://policies.google.com/privacy                               │
 33  │                                                                   │
 34  │ To disable animations in this tool, use                           │
 35  │ 'flutter config --no-cli-animations'.                             │
 36  └─────────────────────────────────────────────────────────────────┘
 37
 38  Resolving dependencies...
 39  Downloading packages...
 40    async 2.11.0 (2.12.0 available)
 41    characters 1.3.0 (1.3.1 available)
 42    collection 1.18.0 (1.19.0 available)
 43    fake_async 1.3.1 (1.3.2 available)
 44    file 7.0.0 (7.0.1 available)
 45    flutter_launcher_icons 0.13.1 (0.14.1 available)
 46    flutter_lints 3.0.2 (5.0.0 available)
 47    leak_tracker 10.0.5 (10.0.7 available)
 48    leak_tracker_flutter_testing 3.0.5 (3.0.8 available)
 49    lints 3.0.0 (5.1.0 available)
 50    matcher 0.12.16+1 (0.12.17 available)
 51    material_color_utilities 0.11.1 (0.12.0 available)
 52    meta 1.15.0 (1.16.0 available)
 53    path 1.9.0 (1.9.1 available)
 54    platform 3.1.5 (3.1.6 available)
 55    stack_trace 1.11.1 (1.12.0 available)
 56    string_scanner 1.2.0 (1.4.0 available)
 57    test_api 0.7.2 (0.7.3 available)
 58    vm_service 14.2.5 (14.3.0 available)
 59    webdriver 3.0.3 (3.0.4 available)
 60  Got dependencies!
 61  20 packages have newer versions incompatible with dependency constraints.
 62  Try `flutter pub outdated` for more information.
 63
 64  ▸ ✅ Technoprise App Integration Tests Add new item
 87  ✅ Technoprise App Integration Tests Delete existing item
 88  ▸ ✅ (tearDownAll)
101
102  🎉 2 tests passed.
```

❯ ✅ Post Set up Flutter                                                               0s
❯ ✅ Post Check out the code                                                           0s
❯ ✅ Complete job                                                                      0s

Code    Issues    Pull requests    Actions    Projects    Wiki    Security    Insights    Settings

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← Flutter CI/CD

✓ **update: flutter.yml** #7    Re-run all jobs    ⋯

🏠 Summary

**Jobs**

✓ lint
✓ test
✓ build

**Run details**

⏱ Usage
📄 Workflow file

› **Annotations**
    1 warning

**lint**
succeeded 14 minutes ago in 50s    🔍 Search logs    ↻    ⚙

› ✓ Set up job                                                      1s
› ✓ Check out the code                                              1s
› ✓ Set up Flutter                                                  30s
∨ ✓ Run Flutter Lint                                                17s

```
 1  ▶ Run flutter analyze
 9
10                Welcome to Flutter! — https://flutter.dev
11
12     The Flutter tool uses Google Analytics to anonymously report feature usage
13     statistics and basic crash reports. This data is used to help improve
14     Flutter tools over time.
15
16     Flutter tool analytics are not sent on the very first run. To disable
17     reporting, type 'flutter config --no-analytics'. To display the current
18     setting, type 'flutter config'. If you opt out of analytics, an opt-out
19     event will be sent, and then no further information will be sent by the
20     Flutter tool.
21
22     By downloading the Flutter SDK, you agree to the Google Terms of Service.
23     The Google Privacy Policy describes how data is handled in this service.
24
25     Moreover, Flutter includes the Dart SDK, which may send usage metrics and
26     crash reports to Google.
27
28     Read about data we send with crash reports:
29     https://flutter.dev/to/crash-reporting
30
31     See Google's privacy policy:
32     https://policies.google.com/privacy
33
34     To disable animations in this tool, use
35     'flutter config --no-cli-animations'.
36
37
38  Resolving dependencies...
39  Downloading packages...
40    async 2.11.0 (2.12.0 available)
41    characters 1.3.0 (1.3.1 available)
42    collection 1.18.0 (1.19.0 available)
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48    leak_tracker_flutter_testing 3.0.5 (3.0.8 available)
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56    string_scanner 1.2.0 (1.4.0 available)
57    test_api 0.7.2 (0.7.3 available)
58    vm_service 14.2.5 (14.3.0 available)
59    webdriver 3.0.3 (3.0.4 available)
60  Got dependencies!
61  20 packages have newer versions incompatible with dependency constraints.
62  Try `flutter pub outdated` for more information.
63  Analyzing technoprise_challenge...
64  No issues found! (ran in 9.1s)
```

› ✓ Post Set up Flutter                                             0s
› ✓ Post Check out the code                                         0s
› ✓ Complete job                                                    0s