

# Testing Policy - Docks

TripleParity

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## 1 Testing Process

### 1.1 Peer Review

Before code can be merged into the develop branch a Pull Request has to be created. Three reviews are required from other developers before the pull request can be merged into develop.

During peer reviews the following should be checked:

- Architectural problems - will this cause problems in the future?
- Compliance with requirements and design - is that what we need?
- Coding Standards - proper code formatting and security standards?



Figure 1: At least 3 peer reviews are needed for a feature to be merged



Figure 2: An example of a positive peer review

### 1.2 Automated Testing and Continuous Integration

When a commit is made to the 'docks-ui' repository on GitHub two processes are started:

- [Travis CI](#) Builds the repository
- [Docker Hub](#) builds the repository and creates a Docker Image that can be deployed in production

### 1.2.1 Travis CI

The history of test reports for Travis CI can be viewed at <https://travis-ci.org/TripleParity/docks-ui/branches>. If the build was not successful it will be marked as 'failed'

Travis CI is used for running tests associated with each repository.

For the frontend Angular generates a set of tests for each component to verify that the component was successfully created. These tests run inside a headless (no screen required) Chrome browser.

The backend also has a suite of unit tests that are executed on Travis CI.

#### Default Branch

|                     |                            |                             |   |  |  |  |  |  |
|---------------------|----------------------------|-----------------------------|---|--|--|--|--|--|
| ✓ master<br>1 build | # 48 passed<br>27 days ago | ff703e7<br>Evert Goldenhuys | ✓ |  |  |  |  |  |
|---------------------|----------------------------|-----------------------------|---|--|--|--|--|--|

#### Active Branches

|                         |                                |                      |   |   |   |   |   |   |
|-------------------------|--------------------------------|----------------------|---|---|---|---|---|---|
| networks2<br>3 builds   | # 263 started<br>-             | 10affa1<br>CDuPlooy  | % | ✓ | ✗ |   |   |   |
| ✗ loginPage<br>2 builds | # 262 failed<br>19 minutes ago | 95d81d1<br>Paul Wood | ✗ | ✗ |   |   |   |   |
| ✓ develop<br>19 builds  | # 261 passed<br>29 minutes ago | 8119ea9<br>GitHub    | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Figure 3: Screenshot of Travis CI branch build history

```

2773 The command "ng build --prod --no-progress" exited with 0.
2774 $ ng test --no-progress
2775 (node:5873) ExperimentalWarning: The fs.promises API is experimental
2776 10 05 2018 20:06:46.172:INFO [karma]: Karma v2.0.2 server started at http://0.0.0.0:9876/
2777 10 05 2018 20:06:46.174:INFO [launcher]: Launching browser ChromeHeadless with unlimited c
2778 10 05 2018 20:06:46.179:INFO [launcher]: Starting browser ChromeHeadless
2779 10 05 2018 20:06:56.045:INFO [HeadlessChrome 0.0.0 (Linux 0.0.0)]: Connected on socket yos
2780 HeadlessChrome 0.0.0 (Linux 0.0.0): Executed 0 of 18 SUCCESS (0 secs / 0 secs)
2781 e 0.0.0 (Linux 0.0.0): Executed 1 of 18 SUCCESS (0 secs / 0.036 secs)
2782 e 0.0.0 (Linux 0.0.0): Executed 2 of 18 SUCCESS (0 secs / 0.046 secs)
2783 e 0.0.0 (Linux 0.0.0): Executed 3 of 18 SUCCESS (0 secs / 0.057 secs)
2784 e 0.0.0 (Linux 0.0.0): Executed 4 of 18 SUCCESS (0 secs / 0.066 secs)
2785 e 0.0.0 (Linux 0.0.0): Executed 5 of 18 SUCCESS (0 secs / 0.076 secs)
2786 e 0.0.0 (Linux 0.0.0): Executed 6 of 18 SUCCESS (0 secs / 0.086 secs)
2787 e 0.0.0 (Linux 0.0.0): Executed 7 of 18 SUCCESS (0 secs / 0.165 secs)
2788 e 0.0.0 (Linux 0.0.0): Executed 8 of 18 SUCCESS (0 secs / 0.225 secs)
2789 e 0.0.0 (Linux 0.0.0): Executed 9 of 18 SUCCESS (0 secs / 0.248 secs)
2790 e 0.0.0 (Linux 0.0.0): Executed 10 of 18 SUCCESS (0 secs / 0.296 secs)
2791 e 0.0.0 (Linux 0.0.0): Executed 11 of 18 SUCCESS (0 secs / 0.307 secs)
2792 e 0.0.0 (Linux 0.0.0): Executed 12 of 18 SUCCESS (0 secs / 0.334 secs)
2793 e 0.0.0 (Linux 0.0.0): Executed 13 of 18 SUCCESS (0 secs / 0.353 secs)
2794 e 0.0.0 (Linux 0.0.0): Executed 14 of 18 SUCCESS (0 secs / 0.372 secs)
2795 e 0.0.0 (Linux 0.0.0): Executed 15 of 18 SUCCESS (0 secs / 0.38 secs)
2796 e 0.0.0 (Linux 0.0.0): Executed 16 of 18 SUCCESS (0 secs / 0.406 secs)
2797 e 0.0.0 (Linux 0.0.0): Executed 17 of 18 SUCCESS (0 secs / 0.47 secs)
2798 e 0.0.0 (Linux 0.0.0): Executed 18 of 18 SUCCESS (0 secs / 0.525 secs)
2799 e 0.0.0 (Linux 0.0.0): Executed 18 of 18 SUCCESS (0.565 secs / 0.525 secs)
2800
2801
2802 The command "ng test --no-progress" exited with 0.

```

Figure 4: 18 UI tests running on Travis

### 1.2.2 Docker Cloud

Docker images are build on [Docker Cloud](#). These image can then be deployed in a production environment or for development and testing. Images can be viewed at <https://hub.docker.com/u/tripleparity/>

|                  |   |  |   |
|------------------|---|--|---|
| 🕒 12 minutes ago | 🕒 | Build in 'loginPage' (95d81d14)              | ▼ |
| 🕒 23 minutes ago | 🕒 | Build in 'develop' (8119ea9d)                | ▼ |
| 🕒 28 minutes ago | 🕒 | Build in 'volumeHtml' (a16d336b)             | ▼ |
| 🕒 37 minutes ago | 🔄 | Build in 'service-operations-#41' (4a388ff5) | ▼ |
| 🕒 an hour ago    | ✅ | Build in 'service-operations-#41' (5ab5d577) | ▼ |
| 🕒 an hour ago    | ✅ | Build in 'volumeHtml' (98dd996b)             | ▼ |
| 🕒 an hour ago    | ✅ | Build in 'networks2' (d06c71ae)              | ▼ |
| 🕒 an hour ago    | ❌ | Build in 'service-operations-#41' (d3b56073) | ▼ |
| 🕒 an hour ago    | ❌ | Build in 'networks2' (20c6f673)              | ▼ |
| 🕒 an hour ago    | ✅ | Build in 'service-operations-#41' (911d1723) | ▼ |

Figure 5: Screenshot of Docker Cloud Build History