SE Automated Testing Requirements

Brett Thompson <brett.thompson@c3.ai>
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To:Solution Engineering - Global <solutionengineering-global@c3.ai>;customerdataengineering-global <customerdataengineering-global@c3.ai>
Cc:Solution Architecture <services_sa@c3.ai>

Team,

Testing is an extremely important part of the software development process to ensure our code is functioning correctly the first time and to prevent regressions. We continue to see projects not writing enough tests (or any tests!!) and even ignoring test failures when they happen. To date, we have only seen 1 Production Readiness Review that meets our requirements of 80% test coverage (all metrics) and 100% passing. There is also a trend of projects which are setting aside testing to be done at the end of the project as tech debt – this is not acceptable.

As a technical oversight team, we have not done a good job of enforcing these or providing you with clear focus and direction. To fix that going forward, we expect the following from all projects (note that these are not new):

- 80% test coverage across all metrics on v8 projects as measure by the Release Mgt Test Coverage Report
  - v7 projects are exempt from reporting only due to complexity in setup. Please try to maintain high test coverage.
- 100% passing tests on all static branches (master, release, develop, trunk, etc.)
  - If we get yellow/red builds on any static branches it requires a P0 mid sprint ticket
- Tests are included in the Definition of Done
  - All PRs either require >= 80% test coverage OR an explanation of why a test is not needed
- All GitHub repositories should have branch protections enabled and require RM status checks before merging.
- Level of effort estimations should include writing automated tests – communicate any impacts to timelines ASAP.

If you get *any* pushback on the above requirements from anyone – SMs, DMs, Practice Leads, etc. – please tell them to raise the issue with Bus or myself. If you feel your project deserves an exemption from any of these requirements, please reach out.

This is your responsibility as a Solution Engineer to enforce this on your teams and yourself. You can either write your tests with the tickets or write them after Bus and I fail your Production Readiness Review.

Thanks,
Bus & Brett

P.S.
In case you're interested in further rationale as to why tests help us as a team and as a company:

1. A handful of customer projects have transitioned to "support mode", which means that we have 0 FTE allocated to maintain the project from SM, DM, DE, SE, etc., and the only allocation we have to that account is a partial FDE. That FDE becomes responsible for the subsequent upgrades, which are significantly harder if (a) there's no testing of the customizations in the customer repo and (b) there are a lot of customizations in the customer repo.
   1. Any allocation we require from SE/DE/SA/DM/SM to upgrade these customers is overhead we do not get paid for as a company.
2. We are deploying production applications to large enterprises that expect our applications to function as designed. We have seen an uptick in production issues across recent go-lives, and we think this is a way for us to proactively prevent these issues in production.

    3. One valid way to minimize the impact of the need to write tests in the customer is to not make any customizations in the customer repo, and instead stick close to the base app functionality.
        1. This is in line with our goals of minimizing maintenance and upgrade LoEs

Brett Thompson
Senior Manager, Solution Engineering

Minneapolis, MN

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