Test Data Reporting
Testing is a fundamental part of the project, but it is not so useful unless it goes along with an accurate and convenient model to report the results of such a testing. The QA Test Report\(^1\) is an application that has been developed to save and report the test results for the Apertis images. It supports both automated tests results executed by LAVA and manual tests results submitted by a tester.

**Workflow**

The deployment consists of two docker images, one containing the main report application and the other running the postgresql database. The general workflow is as follows:

**Automated Tests**

1. The QA Report Application is executed and it opens HTTP interfaces to receive HTTP requests calls and serve HTML pages in specific HTTP routes.
2. GitLab CI/CD builds the images and they are pushed to the image server.
3. GitLab CI/CD triggers the LAVA jobs to execute the automated tests in the published images.
4. GitLab CI/CD, when triggering the LAVA jobs, also registers these jobs with the QA Report Application using its specific HTTP interface.
5. The QA Report application adds these jobs in its internal queue and waits for the LAVA tests jobs results to be submitted via HTTP.
6. Once LAVA finishes executing the tests jobs, it triggers the configured HTTP callback sending all the test data to the QA Report application.
7. Test data for the respective job is saved into the database.

**Manual Tests**

1. User authenticate with GitLab credentials from the Login button in the main page.

\(^1\)https://gitlab.apertis.org/infrastructure/lava-phab-bridge/
2. Once logged in, the user can click on the Submit Manual Test Report button that is now available from the main page.

3. Tester needs to enter the following information in the Select Image Report page:
   - Release: Image release (19.03, v2020dev0 ..)
   - Version: The daily build identifier (20190705.0, 20190510.1 ..)
   - Select Deployment Type (APT, OSTree)
   - Select Image Type

4. A new page only showing the valid test cases for the selected image type is shown.

5. User selects PASS, FAIL or NOT TESTED for each test case.

6. An optional Notes text area box is available besides each test case for the user to add any extra information (e.g tasks links, a brief comment about any issue with the test, etc).

7. Once results have been selected for all test cases, user should submit this data using the Submit All Results button at the top of the page.

8. The application now will save the results into the database and redirect the user to a page with the following two options:
   - Submit Manual Test Report: To submit tests results for a new image type.
   - Go Back to Main Page: To check the recently submitted tests results.

9. If the user wants to update a report, just repeat the above steps selecting the specific image type for the existing report and then updating the results for the necessary test cases.

**Reports**

Reports for the stored test results (both manual and automated) are generated on the fly by the QA report application, for example as done for the v2020.3 release\(^2\).

\(^2\)https://qa.apertis.org/report/v2020/20201126.0