FormScriber DevSecOps

CI/CD Pipeline

Test Report

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# 1. Introduction

## 1.1 Purpose

This test report shall lay out the scope, test strategy, test suite, test execution findings, if any, and metrics for a single test session of the application under test, the FormScriber DevSecOps continuous integration/continuous deployment pipeline within Azure DevOps. This document therefore shall be a summary of the conducted test cycle and include the activities, details, and results of said testing. The test report is a deliverable that can be utilized by stakeholders to evaluate and/or measure the application’s quality. Results are a representation of the state of the application in its current version. Defects identified, if any, can be analyzed to inform for remediation, improvements, or next steps before release. If corrective action is required, the development team can use the information provided in the Findings section to aid in resolution.

## 1.2 Scope

Scope of the test cycle shall include core functionality of the continuous integration/continuous deployment pipeline and its various use case scenarios. Verification of the system functionality includes use of configurations and options set by the DevSecOps team to enable, disable, or control the flow of development operations processes, in order to confirm actual output compared to expected behavior. This shall verify that the CI/CD pipeline meets requirements as specified. Out-of-scope components include, and are not limited to, external testing activities such as usability testing, penetration testing, and performance testing of the proprietary and open source tools used by the project.

# 2. Testing

## 2.1 Test Strategy

This testing effort shall be functional testing conducted manually. Automated changes to DevSecOps pipeline configurations are not within scope. Each test case run shall be a single run of the pipeline feature, run in the web browser utilized for testing after logging into the DevOps tools with the required credentials. This is black-box testing using the supplied user interfaces of the various DevOps tools to verify the requirements as set forth in the Test Report document. The test cases focus on use case scenarios by DevSecOps team members as well as development team members as they utilize the DevSecOps infrastructure. The test suite revolves around configurations of access permissions and usage of manual and automated triggers within the context of the integration, build, testing, and deployment functionalities. Testing the functionality from both DevSecOps and development teams perspectives ensures that the core feature of the infrastructure is working as expected. The tester shall ensure the prerequisites are met as outlined in the Prerequisites column, and follow the steps outlined in the Steps column to execute each specific test case. Test case actual output that matches with expected output shall be determined to be a Pass, whereas output that does not match shall be marked as Fail, details of which are included in forthcoming sections 2.2 and 3. Test cases that were not able to be run or could not provide conclusive evidence for either pass or fail shall be marked as N/A.

## 2.2 Tests Conducted

The test suite for the FormScriber DevSecOps CI/CD pipeline consists of sixteen (16) test cases as laid out in the FormScriber DevSecOps Test Report document, represented in the test case matrix of Figure 1. Descriptions of each test case are included in the Description column and configurations tested are in the Prerequisites column. Other information includes the test case ID and name, requirements tested against, expected results, actual results, and status of the test, along with any notes.



# 3. Functional Test Execution Findings

**3.1 Finding 1**

**Test Case:** N/A

**Failing Requirement:** N/A

**Expected Output**: N/A

**Actual Output**: N/A

**Defect:** N/A

**Screenshot of failure:** N/A

# 4. Test Results and Summary

The complete test suite was run three times over the last development sprint. The first run was executed when the CI/CD pipeline was still under development, leading to a portion of the test cases not being able to run. In the final state at the end of the milestone, most of the remaining test cases regarding the release pipeline was able to be run and the results updated for the subsequent two test runs. Two test cases were marked as Inconclusive:

* **ApplicationTest-Manual\_execution**: Test tasks are integrated into the build pipeline and are not triggered manually. Development team members can report test results separately.
* **Triggers-Disable\_continuous\_integration**: With the remaining time left in the sprint, it was not conducive to turn off continuous integration checks without risk of impacting quality of the product, so this test case is deferred to a future test cycle.

At this time, there are no failures noted in the testing of the infrastructure and pipelines and test cases conformed to the verification of the requirements as stated in the FormScriber DevSecOps SRS document.

**FormScriber DevSecOps Test Run Results**

