

Test Plan for Zero generation alerts

Introduction

This Test plan is designed to test the Zero- generation alerts lifecycle and notification systems for the same. It also provides test cases for solar monitoring systems for zero-generation alerts.

Scope

This test plan covers only zero-generation alert and notification mechanism to the users. It also covers testing the solar monitoring systems for zero-generation alerts.

Out of scope

This test plan does not cover test cases for alerts and notifications which are not zero-generation alerts.

Assumptions

For solar monitoring systems, we made an assumption to send alert notifications when the time period is on or after (== or >) sun rise and on or before (= or <)sun set.

Test cases will be automated and could be run any time during or after development.

Use JIRA for defect management system.

Schedules

This test plan can be executed any time during or after development.

Roles and Responsibilities

QA Assurance Engineer - To develop test plan for Zero-generated alerts and notifications for monitored systems and solar monitored systems.

QA Manager, Dev Manager, Developer - to review the test plan and approve it. Come up with blocker test cases to be executed during Dev-QA hand off.

Deliverables

1. Create test cases for monitored systems for zero-generated alerts and notification mechanism
2. Create test cases for solar monitored systems

Tools

To be discussed

Test bed details

Provide the monitoring device names and user email ids used for zero-generation alerts testing and notifications.

Defect Management

JIRA

Test Cases

1. Zero generation alert should be created with alert status “Open” and notification email received by user when monitored system changed from producing energy to not producing energy.

Steps:

1. Make sure that the monitored system does not produce energy. If the monitored system is producing energy, mark the test case as passed and exit the test case. Else, go to step 2.
2. Verify if the user received an alert email. If the user did not receive an alert email, mark the test case as failed and go to step 4.
3. Verify if the alert state is “Open”. If the alert state is not “Open”, mark the test case as failed. Else, mark it as passed.
4. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

2. Zero generation alert with status “Open” or “Acknowledged” should NOT be created and user should NOT receive notification email with status Open/Acknowledged when the monitored system produces energy.

Steps:

1. Make sure that monitored system to be tested produces energy. If the monitored system is not producing energy, mark the test case as passed and exit. Else, go to step 2.
2. Verify if the user does NOT receive an alert email with alert status “Open” or “Acknowledged”. If the user receives an email with alert status “Open” or “Acknowledged”, mark the test case as failed. Else, mark the test case as passed.
3. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

3. Zero generation alert email with Status “Open” should be sent to user every day until the alert is acknowledged by the user and the monitored system continues to NOT produce energy.

Steps:

1. Make sure the monitored system does not produce energy. If the monitored system produces energy, mark the test case as passed and exit. Else, go to step 2.
2. Check if the alert system already sent an alert previous day. If an alert is not sent the previous day, this case is handled in test case 1(mark this test case passed and exit). Else, go to step 3.
3. If an alert is sent the previous day, make sure the status of the alert is still “Open”. If the alert status is “Acknowledged” or “Closed”, mark the test case passed and exit. Else go to step 4.
4. Send an alert again to the user, if 24 hours has passed and the alert is still in “Open” state.
5. If the user receives an alert with state “Open”, mark the test case passed. Else mark it failed.
6. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

4. Zero generation alert email should NOT be sent to user (and user should NOT receive another alert) again with status “Open” or “Acknowledged” after the user acknowledges the alert email.

Steps:

1. Make sure the monitored system does not produce energy. If the monitored system produces energy, mark the test case passed and exit. Else go to step 2.
2. Check if the alert system already sent an alert with status “Open” the previous day. Else, this scenario is covered in another test case (So mark the test case passed and exit). If not, go to step 3.
3. Check if the status of the alert changed to “Acknowledged” by the user. If the status of alert is not changed to “Acknowledged” by the user, mark the test case passed and exit.
4. Make sure an alert with status “open” is not sent to the user after user changed the status to “Acknowledged”.. If it is sent, mark the test case failed else mark it passed.
5. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

5. Zero generation alert with status “Closed” should only be created and sent to the user (and user should receive the notification email with status closed) when the alert system sent an

alert with "Open" status earlier and the monitored system which earlier did not produce energy is now producing energy

Steps:

1. Make sure an alert is sent earlier with status "Open" when the monitored system does not produce energy. Else mark this test case passed and exit. Else go to step 2.
2. Make sure that the monitored system produces energy again. Else mark the test case passed and exit.
3. Check if the alert with status "Closed" is sent to the user. If alert is not sent with status "Closed", mark the test case failed. Else mark it as passed.
4. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

6. Alert system should NOT send any zero generation alerts when the monitoring system is producing energy and continues in the same state of producing energy. (continues to remain in the state of producing energy)

Steps:

1. Make sure the monitoring system continues to produce energy. If the monitoring system is not producing energy, mark the test case passed and exit.
2. Make sure the monitoring system was producing energy in earlier days as well.
3. Make sure no alerts were sent to the user. If any alert is sent to the user, mark the test case as failed and exit. Else mark it as passed.
4. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

7. Zero generation alerts with status "Open" should be sent only once per day per monitoring system for a single change (flip) from producing energy to not producing energy. For example: If the same monitoring system flips 4 times in a day from producing to not producing, that 4 alerts with open state should be created on that day. But a single alert with "open" state should be created per day for a single change from producing to not producing for a monitoring system. There should not be more than one alert with open state for a single monitoring system with a single change from producing to not producing.

Steps:

1. Make sure the monitoring system flipped once from producing to not producing.
2. Make sure a single alert is sent with "Open" status to the user. If a single alert is not sent, mark test case failed.

3. Make sure no alerts with “Open” status are sent to the user within 24 hours of receiving an alert with “Open” status for the same monitoring system for that single change from producing to not producing. If we receive more alerts with “open” status within 24 hours for the same monitoring system for single change from producing to not producing, mark the test case failed. Else, mark it passed.
4. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

8. Zero generated alert state can change directly from “open” state to “closed” state without going to “Acknowledged” state in between.

Steps:

1. Make sure an open state alert is generated for a monitoring system when it flipped from producing to not producing energy.
2. Make sure the monitoring system started producing energy even before the user changed the alert state to “Acknowledged”
3. Make sure the alert with Closed State is created for the monitoring system after it started producing energy.
4. In this scenario, if the state of the alert moved to “Acknowledged” then, mark test case failed. Else, mark the test case passed.
5. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

Bonus test cases

7. Zero generation alerts should NOT be sent to users for Solar monitoring systems after sunset and before sunrise.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.
2. Check if the time period is after (>)sunset and before (<)sunrise. If not mark the test case passed and exit.
3. Check if alerts are not sent to user. If alerts are received, mark the test case failed. Else mark it passed.
4. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

8. Zero generation alert should be created with alert status “Open” when Solar monitored system does not produce energy when time period is on or after sunrise and on or before sunset.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.
2. Check if the time period is on or after (= or >) sunrise and on or before (= or <) sunset. If not, mark the test case passed and exit.
3. Execute test case 1

Verified: YES/NO

Result: PASS/FAIL

9. Zero generation alert with status “Open” or “Acknowledged” should NOT be created when the Solar monitored system produces energy when time period is on or after sunrise and on or before sunset.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.
2. Check if the time period is on or after (= or >) sunrise and on or before (= or <) sunset. If not, mark the test case passed and exit.
3. Execute test case 2

Verified: YES/NO

Result: PASS/FAIL

10. Zero generation alert email with Status “Open” should be sent to user every day for Solar monitoring systems until the alert is acknowledged by the user and the solar monitored system continues to not produce energy when time period is on or after sunrise and on or before sunset.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.
2. Check if the time period is on or after (= or >) sunrise and on or before (= or <) sunset. If not, mark the test case passed and exit.
3. Execute test case 3

Verified: YES/NO

Result: PASS/FAIL

11. Zero generation alert email should NOT be sent again with status "Open" or "Acknowledged" to the user for Solar monitoring systems after the user acknowledges the alert email.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.
2. Execute test case 4

Verified: YES/NO

Result: PASS/FAIL

12. Zero generation alert with status "Closed" should only be created and sent to the user when the alert system sent an alert with "Open" status earlier and the Solar monitored system which earlier did not produce energy is now producing energy when time period is on or after sunrise and on or before sunset.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.
2. Check if the time period is on or after (= or >) sunrise and on or before (= or <) sunset. If not, mark the test case passed and exit.
3. Execute test case 5

Verified: YES/NO

Result: PASS/FAIL

13. Zero generation alerts with status "Open" should be sent only once per day per Solar monitoring system for a single change (flip) from producing energy to not producing energy. For example: If the same Solar monitoring system flips 4 times in a day from producing to not producing, that 4 alerts with open state should be created on that day. But a single alert with "open" state should be created per day for a single change from producing to not producing for a solar monitoring system. There should not be more than one alert with open state for a single solar monitoring system with a single change from producing to not producing when time period is on or after sunrise and on or before sunset.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.
2. Check if the time period is on or after (= or >) sunrise and on or before (= or <) sunset. If not, mark the test case passed and exit.
3. Execute test case 7

Verified: YES/NO

Result: PASS/FAIL

14. Zero generated alert state can change directly from “open” state to “closed” state without going to “Acknowledged” state in between for a solar monitoring system when time period is on or after sunrise and on or before sunset.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.
2. Check if the time period is on or after (= or >) sunrise and on or before (= or <) sunset. If not, mark the test case passed and exit.
3. Execute test case 8

Verified: YES/NO

Result: PASS/FAIL

15. Sunrise config parameter should be configured via API for Solar monitoring systems.

Steps:

Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.

Check if we can configure sunrise config parameter using the API.

Mark the test case failed if the sunrise config parameter cannot be set. Else, mark it passed.

If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

16. Sunset config parameter should be configured via API for Solar monitoring systems.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.
2. Check if we can configure sunset config parameter using the API.
3. Mark the test case failed if the sunset config parameter cannot be set. Else, mark it passed.
4. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

17. Able to read sunrise config parameter from API for Solar monitoring systems.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.

2. Check if we can read sunrise config parameter using the API.
3. Mark the test case failed if the sunrise config parameter cannot be read. Else, mark it passed.
4. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

18 Able to read sunset config parameter from API for Solar monitoring systems.

Steps:

1. Check if the monitoring system is solar monitoring system. If not mark the test case passed and exit.
2. Check if we can read sunset config parameter using the API.
3. Mark the test case failed if the sunset config parameter cannot be read. Else, mark it passed.
4. If test case fails, create a defect in JIRA if not already created.

Verified: YES/NO

Result: PASS/FAIL

Review/Approval History

QA Manager

Development Manager

Developer