End to End Test Plan

1. Introduction

1.1 Purpose

This document serves as high level end-to-end (E2E) testing plan for the application, ensuring all functionalities work as expected across various scenarios. It covers manual and automated test cases to validate the system's overall behavior and performance.

1.2 Scope

Inclusions:

The scope of the project includes testing the following features of ‘xaltsocnportal.web.app’ web application.

- Sign Up
- Sign In
- Submit Request to Onboard Nodes to Existing Blockchain
- Submit Request to Create New Private Blockchain
- Sign Out

Exclusions:

- All the features except that are mentioned under ‘Inclusions’

2. Test Strategy

2.1 Testing Types

The following test types will be covered:

- **Functional Testing** (Manual & Automated)
- **User Interface (UI) Testing**
- **Performance Testing**

- **End-to-End Workflow Testing**
- **Compatibility Testing**

2.2 Testing Environment & Tools

- **Tools Used:** Selenium
- **Operating System:** Windows 11
- **Browsers:** Chrome, Edge
- **Defect Tracking:** JIRA

3. Test Cases

3.1 Functional Testing

Success Scenarios:

- User can register and log in successfully.
- Once the user has logged in, going back in browser history does not log out the user.
- Clicking the application logo on any page of the application, navigates to the homepage.
- While submitting request to Onboard Nodes to Existing Blockchain,
  - Click on ‘Onboard ONC Node’ pane navigates to the ‘Node details’ section of the page.
  - Node ID field accepts input in “NodeID-{number}” format only where the {nsumber} can be an alphabet, number or alphanumeric value of any length. White spaces are not accepted between the characters.
  - Public IP accepts valid public IPs only.
  - Node-ID, public IP and Node type from the drop down get correctly added which can be confirmed in the preview pane.
  - Upon entering right details, the ‘Next’ button is enabled.
  - Multiple nodes with same details can be added.

- The ‘Next’ button navigates to ‘provide wallet details’ section of the page.
- Wallet Address accepts input only in “0x{checksum valid hexadecimal}” format.
- Multiple wallets with same details can be added.
- Wallet Address and chosen wallet permission from the drop down rightly shows in the preview pane.
- The ‘Next’ button navigates to ‘Review and Submit’ section of the page.
- Review section shows Node and Wallet details correctly.
- ‘Back’ button on each section of the page navigate to one previous page.

- While submitting Request to create new private blockchain
  - Clicking on ‘Launch OCN Child Network’ pane navigates to the ‘Provide network details’ section of the page.
  - The ‘Network Name’ field accepts any name with any number of alphabets, numbers, special chars and spaces.
  - Wallet Address accepts input only in “0x{checksum valid hexadecimal}” format.
  - Upon entering right details, the ‘Next’ button is enabled.
  - The ‘Next’ button navigates to ‘provide node details’ section of the page.
  - ‘Provide node details’ section of this page resembles the same features and properties as from the ‘Onboard ONC Node’ page.
  - The ‘Next’ button navigates to ‘Review and Submit’ section of the page.
  - The review section displays the child Network details correctly.
  - ‘Back’ button on each section of the page navigate to one previous page.

- User is able to successfully log out of the application.
- Once the user has logged out, going back in the browser history does not log the user back in.

Failure Scenarios:

- Signin button on the top right corner of the application homepage does not navigate to Signin page. It navigates to Signup page.
- Forgot password link to reset password is missing on the Signin page.

- ‘Submit’ button to submit request to ‘Onboard ONC Node’ and ‘Launch ONC Child Network’ is clickable but does not produce any effect or gives any submit confirmation.

3.2 UI Testing

Success Scenarios:

- Buttons, text fields, and images display correctly across resolutions.
- Navigation is consistent and intuitive.

Failure Scenarios:

- Unnecessary display of Password complexity message on ‘Signin’page.

3.3 Performance Testing

Success Scenarios:

- Page loads within 2 seconds.

3.4 Security Testing

Success Scenarios:

- Only registered uses can access the application
- Password field is toggled.

3.5 End-to-End Workflow Testing

Success Scenarios:

- User can complete registration, login, submit request to Onboard nodes to existing Blockchain and create new private block chain, and signout smoothly.

Failure Scenarios:

- Submit request to add nodes to existing blockchain and create private block chain does not show any confirmation of the requestion submission.

3.6 Compatibility Testing

Success Scenarios:

- Application runs correctly on Chrome and Edge browser of Windows 11 OS.

4. Test Execution plan

4.1 Creation of Test Scenarios and Test Cases for the different features in scope.

- Testing process:
  - Perform Smoke Testing to check whether the build is stable.
  - Perform in depth testing using the Test Cases created.
  - Report the bugs in bug tracking tool.
  - As part of the Testing, Smoke Testing and Sanity Testing, Regression Testing and Retesting, Usability Testing, Functionality & UI Testing will be performed.
- Repeat Test Cycles until we get the quality product.

5. Defect Reporting:

- Any deviation from expected behavior by the application will be noted and reported.
- Any usability issues will also be reported.

- After discovery of a defect, it will be retested to verify reproducibility of the defect. Screenshots with steps to reproduce are documented.
- All defects logged in JIRA with severity levels.
- Bugs are fixed on priority basis.

6. Entry and Exit Criteria

The below are the entry and exit criteria for every phase of Software Testing Life Cycle:

- Entry Criteria
  - Requirements Documents or details about the Project are received
  - Test Case Reports, Defect Reports are ready
- Exit Criteria:
  - All major bugs are fixed and retested
  - Test summary reports