

Automation and Manual Testing on

ICTAK-TECHBLOG-ADMIN

Presented By:
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App-Overview

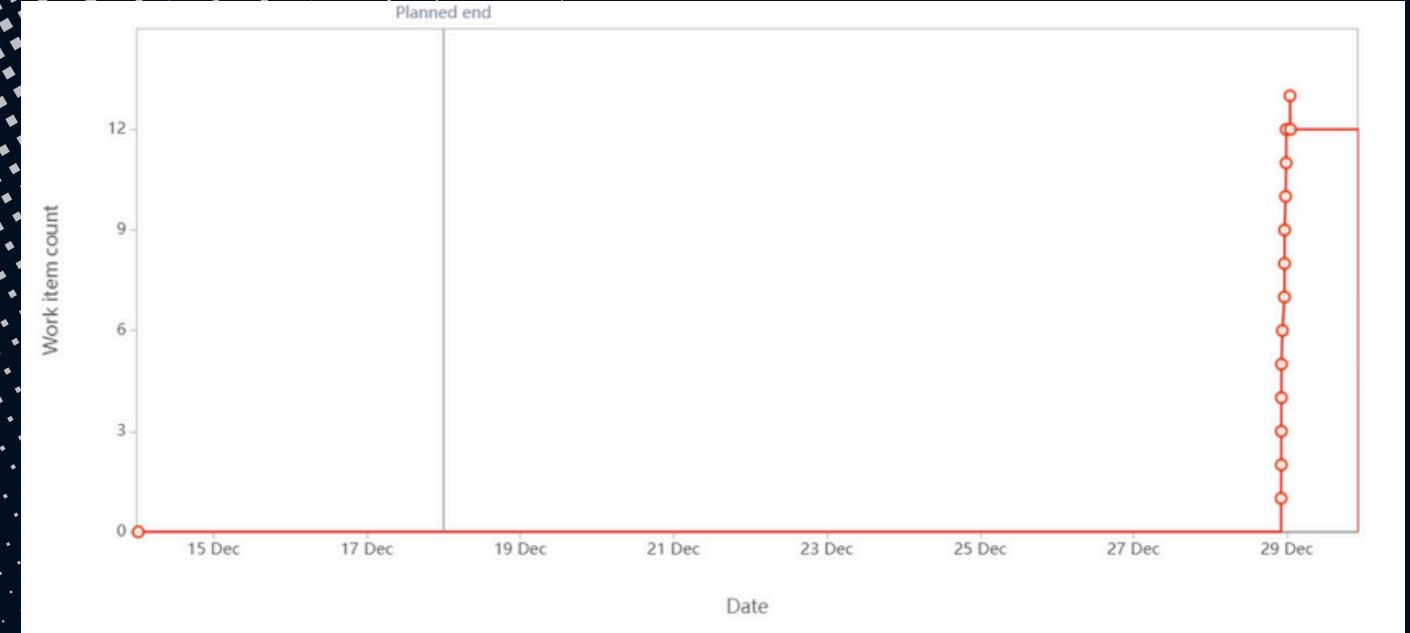
- ICTAK TechBlog is a web-based blogging application
- Provides a platform to publish and manage articles
- In this project only Admin module was tested
- Key features include Admin Login, Dashboard Management, Add / Edit / Delete Articles, Content Management, Logout functionalities
- User and Trainer modules are out of scope.

MANUAL TESTING

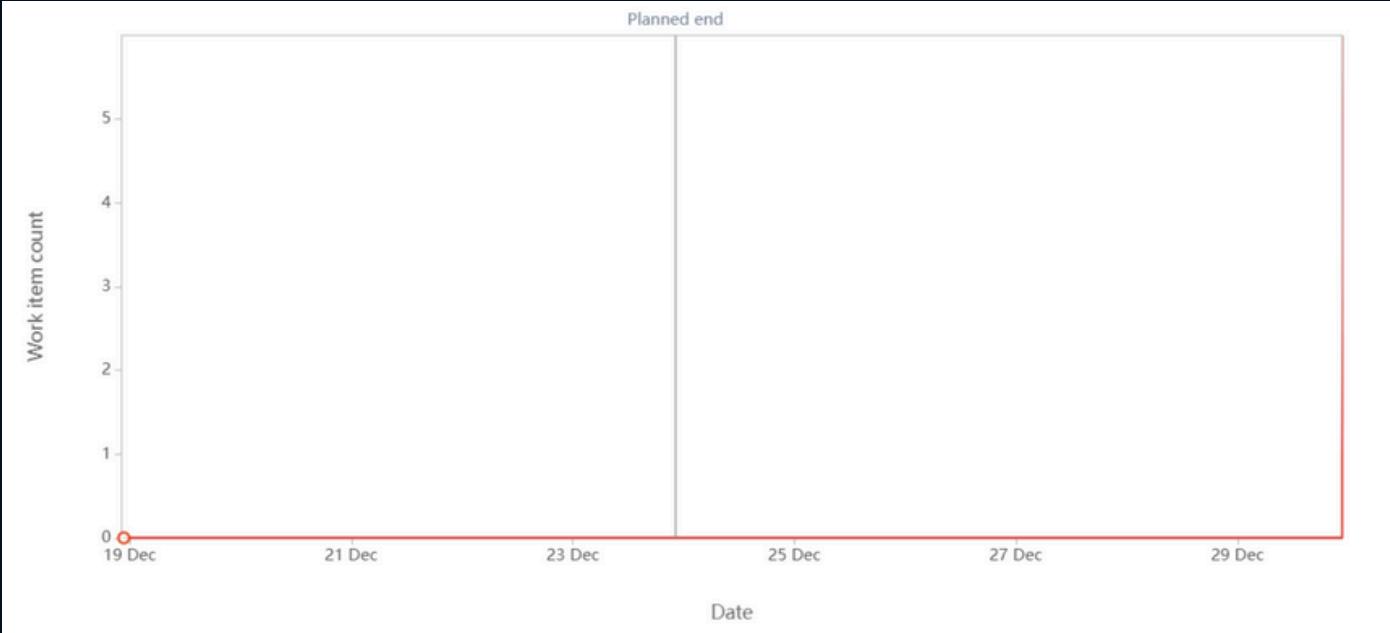
- Manual testing was performed exclusively for the Admin module
- Test Plan was prepared to define testing scope and strategy
- Admin Test Cases were designed and executed
- Requirement Traceability Matrix (RTM) ensured requirement coverage
- Bug Reports were created for identified defects
- Test Summary Report documented overall test results
- Test execution results were recorded in TestRail and generate test execution reports.

PROJECT TRACKING USING JIRA

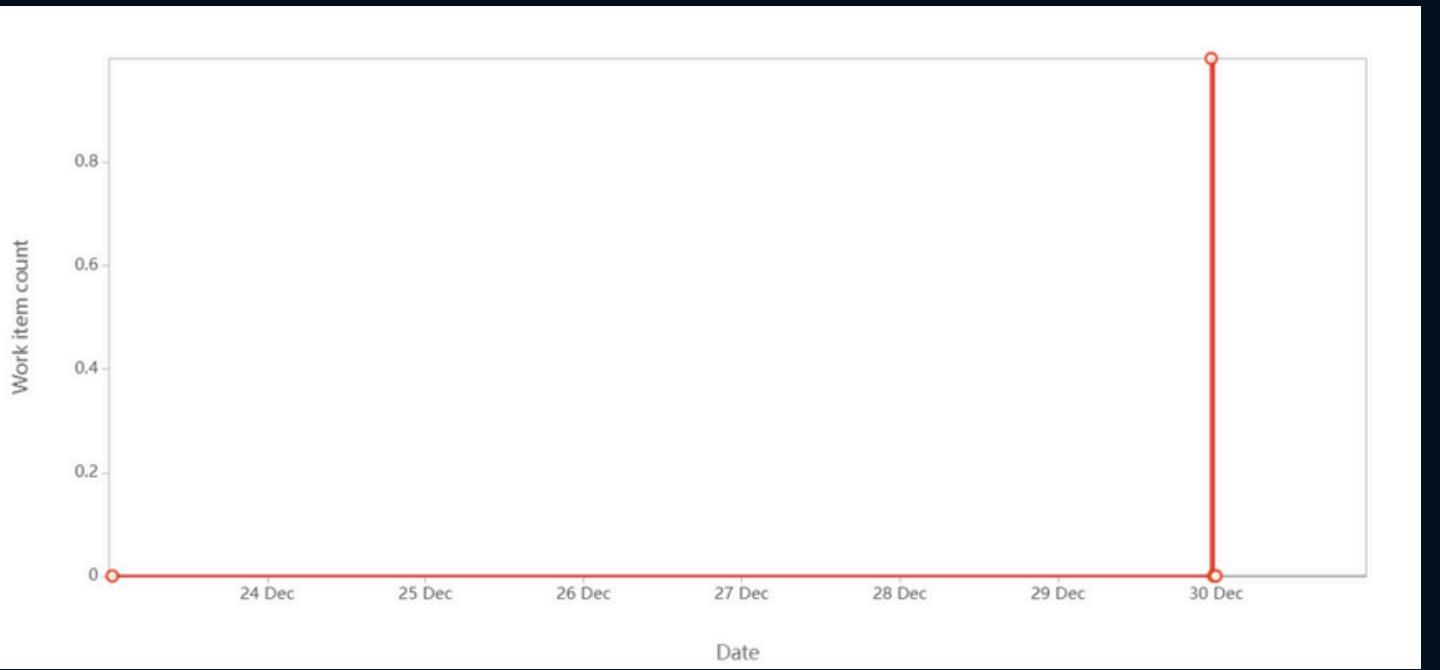
- JIRA used for project tracking and defect management
- Stories, sub-tasks, and bugs created for Admin module
- Zephyr used to create and organize test cases
- Test cases grouped into test cycles
- Test execution and status tracked using Zephyr



Sprint-1



Sprint-2



Sprint-3

AUTOMATION TESTING

- In this project, automation testing is implemented only for the Admin module
- Tools used :
 - Selenium WebDriver – Browser automation
 - Java – Test script development
 - TestNG – Test execution, assertions, listeners
 - Maven – Dependency and build management
 - Page Object Model (POM) – Framework design
 - Jenkins – CI/CD execution
 - Docker – Containerized execution

AUTOMATION FRAMEWORK

- The automation framework is designed using the Page Object Model (POM) to automate Admin module workflows of the ICTAK TechBlog application.

Framework Architecture :

src/test/java

- base → Browser initialization & teardown
- pages → Admin page actions (Login, Dashboard, Posts)
- testcases → Admin test scenarios
- assertions → Validation logic
- utility → Common utilities (Excel, Screenshots)
- listeners → TestNG listeners for failure handling - captures screenshots

src/test/resources

- config.properties
- Test data (Excel)

target

- screenshots

JENKINS

- Jenkins used for automated execution of Admin module tests
- Project integrated with Jenkins using GitHub repository
- Maven build triggered through Jenkins
- TestNG test suite executed automatically
- Build status displayed based on test results

Pipeline Script

```
pipeline {
    agent any

    tools {
        jdk 'JDK21'
        maven 'Maven'
    }
    stages {

        stage('Checkout Code') {
            steps {
                git branch: 'master',
                    url: 'https://github.com/sayoojya-sv/ICTAK_TECHBLOG_ADMIN.git'
            }
        }

        stage('Build & Run Tests') {
            steps {
                catchError(buildResult: 'SUCCESS', stageResult: 'FAILURE') {
                    bat 'mvn clean test'
                }
            }
        }
    }

    post {
        always {
            // Publish test results (Tests tab)
            junit 'target/surefire-reports/*.xml'

            // Archive reports (Artifacts tab)
            archiveArtifacts artifacts: 'target/surefire-reports/**',
            allowEmptyArchive: false
        }
    }
}
```

Jenkins / ICTAK_TECH_ADMIN

Status

Changes

Build Now

Configure

Delete Pipeline

Stages

Rename

Pipeline Syntax

Git Polling Log

Credentials

Last Successful Artifacts

Latest Test Result (3 failures / ±0)

Permalinks

- Last build (#5), 23 hr ago
- Last successful build (#5), 23 hr ago
- Last failed build (#3), 2 days 19 hr ago
- Last unstable build (#5), 23 hr ago
- Last unsuccessful build (#5), 23 hr ago
- Last completed build (#5), 23 hr ago

Builds

Filter

28 December 2025
#5 19:56

27 December 2025
#4 19:56

Test Result Trend

Passed: 11
Skipped: 0
Failed: 3

Jenkins / ICTAK_TECH_ADMIN / #5

Status

Changes

Console Output

Edit Build Information

Delete build '#5'

Timings

Git Build Data

Tests

Pipeline Overview

Replay

Pipeline Steps

Workspaces

Previous Build

#5 (28 Dec 2025, 19:56:58)

Add description

Keep this build forever

Started 23 hr ago
Took 4 min 39 sec

Build Artifacts

Started by user Sayooja S V

This run spent:

- 0.19 sec waiting;
- 4 min 39 sec build duration;
- 4 min 39 sec total from scheduled to completion.

git Revision: dc5c08c107316d77b63cbd866e8742c441e106e2
Repository: https://github.com/sayooja-sv/ICTAK_TECHBLOG_ADMIN.git

Tests (3 failures / ±0)
testcases.AdminTest.deleteMsgDisplayTest
testcases.AdminTest.contactUsTest
testcases.AdminTest.iconTest

</> No changes.

DOCKER

- Docker used to containerize the Admin automation framework
- Docker image built from the Selenium-TestNG project using docker build
- Container run using docker run to execute tests
- Ensures consistent execution across environments
- Minimizes dependency and configuration issues

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```
C:\Windows\System32\cmd.e - + ^ ERROR] AdminTest.iconTest:132 » ElementClickIntercepted element click intercepted: Element <a _ngcontent-wes-c42="" href="#" target="_blank" class="conta nt-icon">...</a> is not clickable at point (1448, 555). Other element would receive the click: <li _ngcontent-wes-c42="">...</li>
(Session info: chrome=143.0.7499.169)
Build info: version: '4.38.0', revision: '6b412e825c'
System info: os.name: 'Linux', os.arch: 'amd64', os.version: '6.6.87.2-microsoft-standard-WSL2', java.version: '17.0.11'
Driver info: org.openqa.selenium.chrome.ChromeDriver
Command: [5bfa5eac9d1c4352330313616c9715a1, clickElement {id=f.DC64FBAE4329B43C4490F7A1B5AEEBFD.d.5CCEE2A502FA5CF79DB6864FFBD0DF2B.e.277}]
Capabilities {acceptInsecureCerts: false, browserName: chrome, browserVersion: 143.0.7499.169, chrome: {chromedriverVersion: 143.0.7499.169 (164b20aab62..., userDataDir: /tmp/.org.chromium.Chromium...}, fedcm:accounts: true, goog:chromeOptions: {debuggerAddress: localhost:42695}, goog:processID: 156, networkConnectionEnabled: false, pageLoadStrategy: normal, platformName: linux, proxy: Proxy(), se:cdp: ws://localhost:42695/devtoo..., se:cdpVersion: 143.0.7499.169, setWindowRect: true, strictFileInteractability: false, timeouts: {implicit: 0, pageLoad: 300000, script: 30000}, unhandledPromptBehavior: dismiss and notify, webauthn:extension:credBlob: true, webauthn:extension:largeBlob: true, webauthn:extension:minPinLength: true, webauthn:extension:prf: true, webauthn:virtualAuthenticators: true}
Element: [[ChromeDriver: chrome on linux (5bfa5eac9d1c4352330313616c9715a1)] -> xpath: //a[@class='contact-icon']]
Session ID: 5bfa5eac9d1c4352330313616c9715a1
[INFO]
[ERROR] Tests run: 14, Failures: 3, Errors: 0, Skipped: 0
[INFO]
[INFO] -----
[INFO] BUILD FAILURE
[INFO] -----
[INFO] Total time: 02:21 min
[INFO] Finished at: 2025-12-27T15:14:09Z
[INFO] -----
[ERROR] Failed to execute goal org.apache.maven.plugins:maven-surefire-plugin:3.2.5:test (default-test) on project dockerictak: There are test failures.
[ERROR]
[ERROR] Please refer to /app/target/surefire-reports for the individual test results.
[ERROR] Please refer to dump files (if any exist) [date].dump, [date]-jvmRun[N].dump and [date].dumpstream.
[ERROR] -> [Help 1]
[ERROR]
[ERROR] To see the full stack trace of the errors, re-run Maven with the -e switch.
[ERROR] Re-run Maven using the -X switch to enable full debug logging.
[ERROR]
[ERROR] For more information about the errors and possible solutions, please read the following articles:
[ERROR] [Help 1] http://cwiki.apache.org/confluence/display/MAVEN/MojoFailureException

::\Users\sayoojya\OneDrive\Desktop\dockerictaktech\dockerictak>
```

The screenshot shows the Docker Hub 'My Hub' interface. On the left, a sidebar lists 'Repositories', 'Hardened Images', 'Collaborations', 'Settings', 'Default privacy', 'Notifications', 'Billing', 'Usage', 'Pulls', and 'Storage'. The 'Repositories' item is selected and highlighted in grey. The main content area displays the repository 'sayoojya2003/ictak-techblog-automation'. The repository has a size of 657.4 MB, 0 stars, and 11 forks. It was last pushed about 2 hours ago. There are options to 'Add a description' and 'Add a category'. Below this, tabs for 'General', 'Tags', 'Image Management (BETA)', 'Collaborators', 'Webhooks', and 'Settings' are shown, with 'General' being the active tab. Under the 'Tags' section, it says 'This repository contains 1 tag(s)'. A table shows one tag: 'latest' (OS: Alpine, Type: Image, Pulled: less than 1 day, Pushed: about 2 hours). Buttons for 'See all' and 'Repository overview' are present. On the right, a 'Docker commands' section shows the command 'docker push sayoojya2003/ictak-techblog-automation:tagname'. A 'Public view' button is also visible. At the top right, it says 'Using 0 of 1 private repositories.' and there are icons for CtrlK, help, notifications, and user profile.

The screenshot shows the Docker Desktop application window. The left sidebar has a dark theme with white icons and labels. The 'Images' option is selected, highlighted with a grey background. The main area is titled 'Images' with a 'Give feedback' link. It shows a 'Local' tab selected over 'My Hub'. Below it, the usage is listed as '2.95 GB / 697.4 MB in use' for '5 images'. A search bar and filter icons are at the top of the image list. The image list table has columns for Name, Tag, Image ID, Created, Size, Actions, and a checkbox header. The table contains seven rows of image data.

	Name	Tag	Image ID	Created	Size	Actions
<input type="checkbox"/>	ictaktechblog-admin	latest	458586b00d4d	5 hours ago	1.89 GB	
<input type="checkbox"/>	java-hello	latest	94b16bd516c3	1 month ago	674.98 MB	
<input type="checkbox"/>	eclipse-temurin	17-jdk	7995efb7f927	1 month ago	633.93 MB	
<input type="checkbox"/>	docker/welcome-to-docker	latest	c4d56c24da4f	5 months ago	22.17 MB	
<input type="checkbox"/>	ictak-techblog-automation	latest	4f1a6c95fedb	3 hours ago	2.32 GB	
<input type="checkbox"/>	sayoojya2003/ictak-techblog-auton	latest	4f1a6c95fedb	3 hours ago	2.32 GB	

Showing 6 items

CLOUD EXECUTION

- AWS EC2 instance used to host Jenkins for CI/CD
- Installed Git, Maven, and Chrome on the instance
- Admin automation tests executed in headless Chrome
- Supports remote, scalable, and consistent test execution
- Test results captured and accessible via Jenkins

 Jenkins / ICTAK-Admin / #2

[Status](#)  **#2 (29 Dec 2025, 19:55:10)** [Add description](#) [Keep this build forever](#)

 Changes  Started by an SCM change Started 2 min 14 sec ago
Took 8.5 sec

 Edit Build Information  Delete build '#2'  Polling Log  Timings  Git Build Data  Tests  Pipeline Overview  Restart from Stage  Replay  Pipeline Steps  Workspaces  Previous Build

 **git** Revision: 1f102656e01df17841638ee1bcd09529d9964d61 Repository: https://github.com/sayoojya-sv/ICTAK_TECHBLOG_ADMIN.git

 Tests (3 failures / ±0) [Show all failed tests >>>](#)

 Changes

1. first commit ([details](#) / [githubweb](#))

Jenkins / ICTAK-Admin / #2 / Tests

Tests 14

x 3 ✓ 11 Took 2 min 39 sec

All Failed Tests

Name	Age	Duration
deletemsgDisplayTest testcases.AdminTest >	2	20 sec
contactUsTest testcases.AdminTest >	2	40 sec
iconTest testcases.AdminTest >	2	1.2 sec

All Tests

Package	Failed	Skipped	Passed	Total	Duration
testcases	3	0	11	14	2 min 39 sec

REST API Jenkins 2.528.3

CHALLENGES

- Handling synchronization issues in dynamic Admin UI
- Managing test failures during Jenkins execution
- Configuring headless Chrome for CI/CD execution
- Setting up tools and dependencies across environments
- Debugging automation and pipeline-related issues

LEARNINGS

- Effective use of Selenium, TestNG, and Page Object Model
- Implementing CI/CD pipelines using Jenkins
- Containerizing automation using Docker
- Executing automation tests in cloud environments

Thank you!!