Liferay Registration Workflow Automation Project

# 1. Introduction

This document details the full journey of developing and deploying a Liferay-based registration automation solution. It includes an overview of the tools used (Liferay and Blade CLI), the development process, the integration of custom logic for PDF extraction, and the implementation of workflow approval logic for creating Liferay users upon approval.

# 2. Environment Setup

## 2.1 Installing Liferay

Liferay was installed using the official Liferay bundle, version 7.4.3.132. The bundle includes Tomcat and is preconfigured for development environments.

## 2.2 Installing Blade CLI

Blade CLI is a command-line tool for managing Liferay modules. It was installed by downloading the executable and adding it to the system path.

# 3. Object and Form Setup

A custom Liferay Object was created through the Control Panel to handle user registration. Fields such as name, email, and document upload were added. A form was created and published to collect user data.

# 4. Java Backend Integration

A custom OSGi module named `liferay-registration-service` was developed using Gradle and Blade CLI. The module includes logic to intercept object submissions, extract text from uploaded PDF documents using Apache Tika and PDFBox, and update the object entry with extracted data.

# 5. Workflow and User Creation

A workflow was associated with the custom object using Liferay’s built-in workflow designer. A workflow handler class was implemented to listen to status updates. Once an object entry is approved, a Liferay user is programmatically created using the extracted registration information.

# 6. Challenges and Solutions

Several challenges were encountered, such as registering the custom workflow handler, resolving package imports, and understanding Liferay's OSGi lifecycle. These were solved through careful debugging, use of the Gogo shell, and analyzing logs to pinpoint misconfigurations in the service component annotations.

# 7. Conclusion

This project demonstrates end-to-end integration of custom logic within Liferay’s object and workflow frameworks. The solution automates user creation based on approval workflows and provides a reusable pattern for enterprise-grade customization in Liferay.