Generic Uploader Framework – GUL

Minor Project

IBM Career Education

Disclaimer

This Software Requirements Specification document is a guideline. The document details all the high level requirements. The document also describes the broad scope of the project. While developing the solution if the developer has a valid point to add more details being within the scope specified then it can be accommodated after consultation with IBM designated Mentor.

INTRODUCTION

The purpose of this document is to define scope and requirements of a web-based General Purpose Uploader Framework for the developers of a software services company. The proposed system will be a ready to use software module that can be integrated with the applications being created on Java platform. The Uploader Framework will provide configuration features to the admin role player with a user-friendly interface. Currently, for every project the team writes its own upload code. Robust design, development and testing of the GUL are vital to its success in becoming the re-usable component across projects.

This document is the primary input to the development team to architect a solution for this project.

System Users

The entire team of developers of the software services company is expected to benefit from the GUL System.

Assumptions

1. It is assumed that the standard java.util.regex package will be used for the development.
2. The developer should have a fair understanding of database indexes, primary key, and foreign key.
3. A tool of generic upload type is a complex piece to design and develop. For simplicity purposes, straightforward features are being proposed for the scope of this project.

REQUIREMENTS

GUL will allow the admin users of the application to easily upload data from external sources with the following features.

1. Provide a wizard like interface to navigate through high level steps such as, a) Source & Target Definition, b) Map structure, c) Define Filter.
2. Generate View for logs of the records uploaded and errors encountered.

Configuration Wizard

The wizard will allow the user to accomplish the upload configuration using 3 simple steps.

Step 1: Define Source and Target

The screen for this step will have two sections 1) Define Source & 2) Define Target. The source section will allow user to select the source as CSV or External database view. User can browse the location to select the file name.

The second section of this form will allow the user to define the target database. On selecting the database, the tool will display the list of tables for the user to select. Multiple selections of tables are available to the users.

At the end of this step, user should have defined the Source type and the file names along with destination database table(s).

Step 2: Map Columns

The screen displays the source files or view's Name and Column labels. The tool has the intelligence to detect the column's data types and display along side the column.

For each source column, the user selects the target table and column for the pick list.

Once the mapping is done, the user saves the configuration by giving a title for future recall.

User can view one to one mapping of source columns and target tables and columns as a snapshot.

Step 3: Define Filter

This step allows user to define a filter criteria if any for uploading records e.g. the upload only those records that match the criteria defined for source column [Age] >35.

The screen displays the source columns for selection. The column selected by user is displayed in a section below to assign a value. Data type Validation as per source column of the user input is required to ensure filter criteria works perfectly. Appropriate alerts should be displayed in case of mismatch in data type. The user should be able to select more than one column for filter criteria, in which case the operators such as "And", "Or" will be selected before adding a column to the filter criteria.

User can save the filter criteria for the configuration being created.

A button to 'Upload' the records is clicked on by the user to execute the configuration.

The system displays the count of records being uploaded and the count of records being moved into error log. A message alert for the process completion is displayed.

The system will insert a row in the target table only if the matching row does not exist. This is possible when you make sure that there is a Primary Key and Index defined on the matching columns in Target table. Otherwise the loading process will

be slow.

View Logs

The user can view logs of the data uploaded and records of the data moved into error. The error records will display the validation failed during the upload process. The logs are removed every week by the system as a scheduled job.

Optional Requirements

It is highly desirable to provide a capability to save upload of configurations defined by the users into a library, so that they may be reused in future. In this case, user will be able to save each upload configuration with a “title” and a “description outlining its purpose”. A list view of all saved upload configurations will be available for browsing the library.

Populate users into a dummy user master from the backend for the purpose of this project. Once this application is ready, it will access the users from the target application.

DEVELOPMENT ENVIRONMENT

GUL will be developed as a web application using Java/JSP and DB2 database. Eclipse will be used as the IDE for the same. You may consider using a JavaScript framework like jQuery/Prototype/ Scriptaculous. For testing purposes, you may set up mySQL database with some dummy views to use data porting feature from mySQL to DB2.