

Student Management System Technical Documentation

Introduction

Purpose

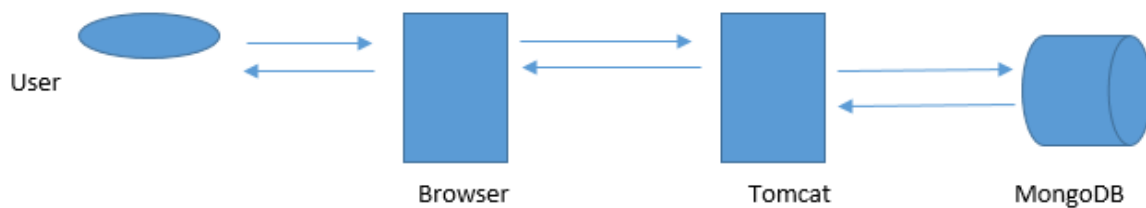
Purpose of this document is to give description of Student management system that is going to be implemented as a project of CingleVue international. This will give brief introduction about the system, its requirements, reasons to use technologies and not to use some other technologies etc.

Objective

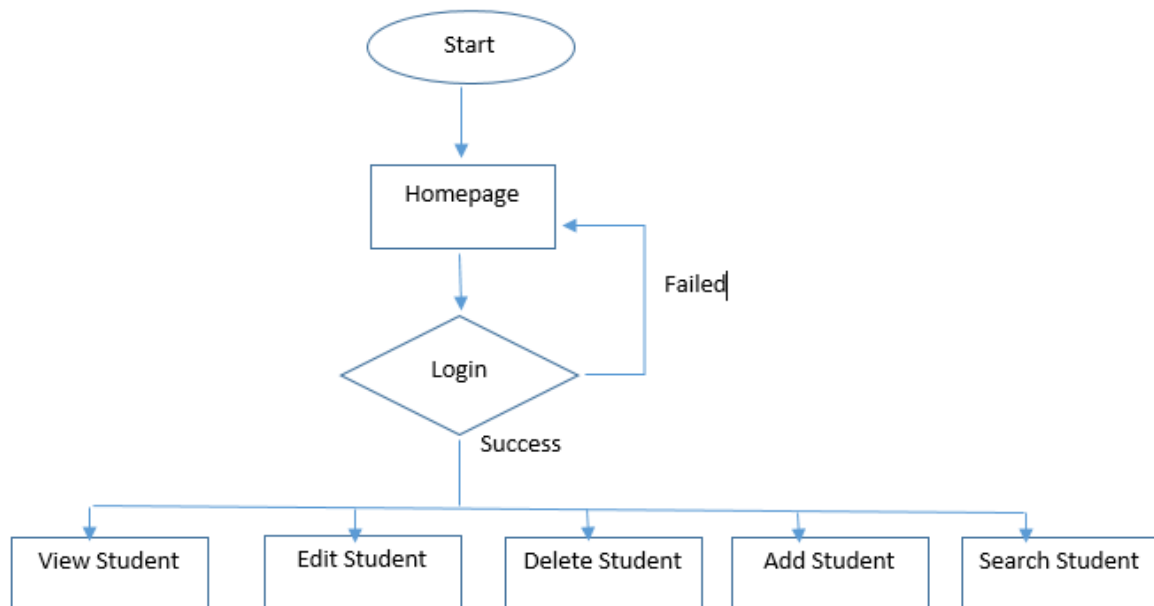
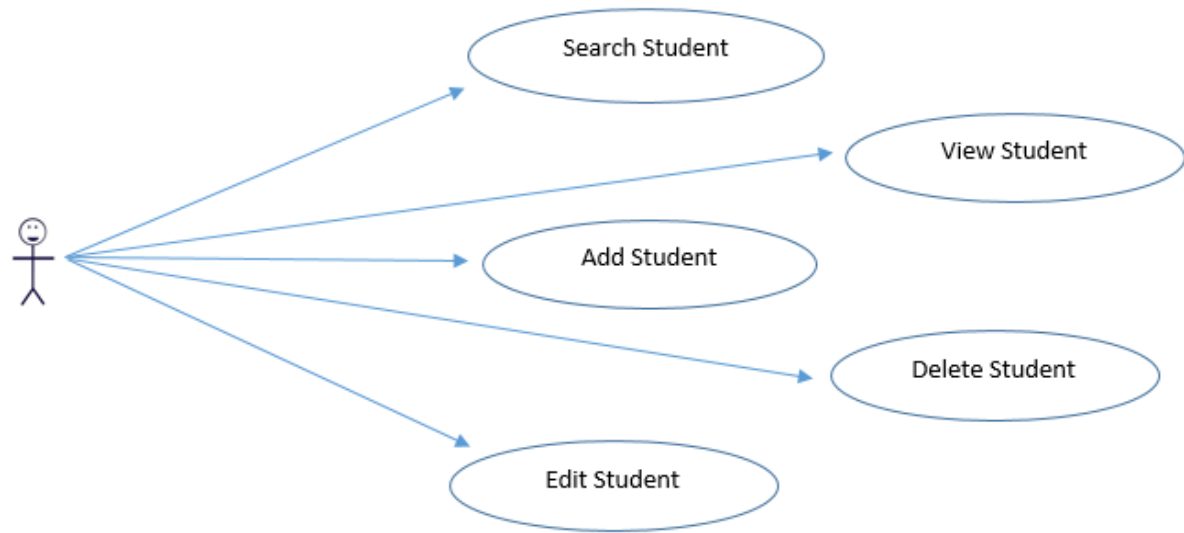
Objective of this project is to implement a fully functional single page web application that can be used to create, view and store student information in a database and retrieve them when user request.

System Design

Data Flow



Requirement analysis



Technologies

Following technologies are suitable for this application, considering performance, load balancing, future expansions and latest technology

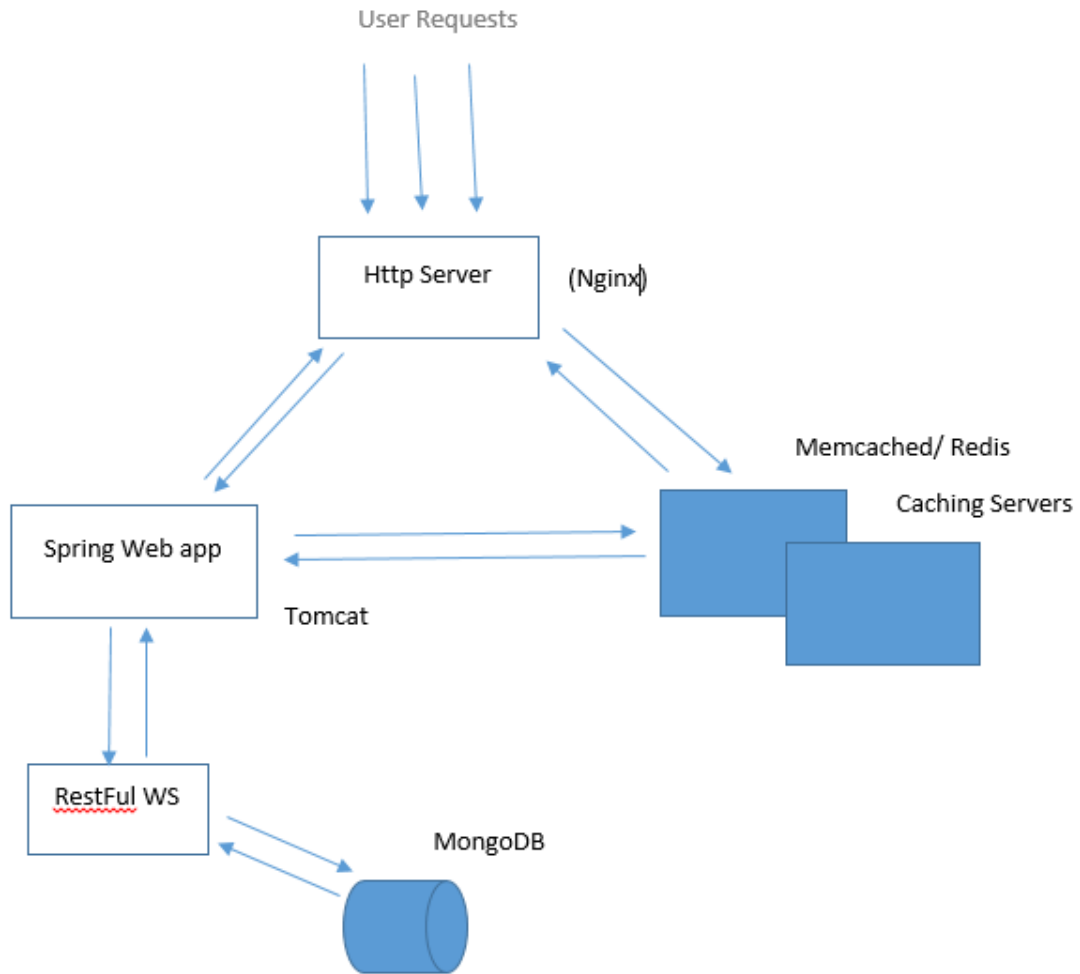
- Spring MVC framework
- MongoDB
- JavaScript/jQuery
- JSP for frontend web pages
- Maven Build tool
- Tomcat Servlet Container

Restful web service can be used to convenient access of data over networks. But this application handle small amount of data, a local NoSQL database would be suitable and enough.

Scalability and Performance

If the number of users access the system is high, it is better to use caching and implementing databases in different servers to effectively handle concurrent user requests.

Following diagram is for the expansion of the system to fulfil above requirements.



Providing above functionalities will improve the user experience when number of users are high. For next level of implementation for even better performance, it is better use CDN (Content Delivery Networks) such as “Akamai” to provide content via several locations.