# SideBet Sport Betting Platform Document

## Project Objective

SideBet aims to develop a secure and reliable online sports betting platform that provides users with an intuitive and seamless betting experience. The platform will offer a wide range of betting options for sports such as EPL, NBA, etc. The project objective is to create a user-friendly interface that allows users to easily deposit and withdraw funds, view available sports and odds, and place sport bets with confidence. The platform aims to provide users with other information such as valuable betting statistics, top picks for the week to enhance their betting experience. Ultimately, the goal of this project is to establish SideBet as a trusted and established platform for online sports betting.

## Technical Objective

SideBet aims to develop a high-performing, scalable, and secure microservice-based online sports betting platform using Angular, Java, and Spring Boot.

## Broad Business requirements

* Allow users to register and log in to the application.
* Allow users to view the list of available sports and odds.
* Allow users to place bets on various sports events.
* Allow users to deposit and withdraw money from their account.

## Microservices:

* User Management Microservice: This microservice will handle user authentication, authorization, and registration. It will also handle user account management such as viewing transaction history and managing account settings.
* Betting Microservice: Responsible for handling bets placed by users. This microservice would manage the bet placement process, including calculating odds, validating bets, and recording transactions.
* Odds Microservice: Responsible for managing and providing sports odds. This microservice would retrieve and store odds data from external sources, as well as provide this data to other microservices that require it.
* Result Microservice: Responsible for retrieving and storing sports results for completed events. This microservice would provide information on final scores, winning teams, and player stats, as well as schedules for upcoming events.
* Payment Microservice: Responsible for handling payment transactions. This microservice would manage the deposit and withdrawal process, ensuring secure and reliable payment transactions.

## APIs:

* User management API: This API will allow users to register, log in, and manage their account information.
* Betting API: This API will allow users to place bets on various sports events and view the odds and sports information.
  + <https://the-odds-api.com/>
  + https://the-odds-api.com/liveapi/guides/v4/#overview
* Payment API: This API will allow users to deposit and withdraw money from their account.

## Architecture:

* The microservices will be deployed using a container orchestration system, such as Kubernetes.
* Each microservice will communicate with each other through REST APIs.
* The user interface will be built using Angular, which will consume the APIs provided by the microservices.

## Technology stack:

Front End - Angular will be used for building the user interface.

Back End - Java will be used for building the microservices. Spring Boot will be used as the framework for building the microservices.

Database - The databases used by the microservices will be relational databases, MySQL

## User Stories:

User Microservice:

1. As a new user, I want to be able to create a new account on the betting platform with my personal information and login credentials.
2. As an existing user, I want to be able to login to my account using my username and password.
3. As a user, I want to be able to view my account details, including my current balance and transaction history.
4. As a user, I want to be able to update my personal information such as my name, address and contact details.
5. As a user, I want to be able to change my password to ensure the security of my account.
6. As a user, I want to be able to withdraw any remaining balance in my account.
7. As a user, I want to be able to deposit money to my account.