## **CricRanker**

**Microservices**

1. **Player Management Service (Player MS)**
   * Handles player details, including name, age, country, and performance statistics.
2. **Match Management Service (Match MS)**
   * Manages the creation of matches, the teams involved, match results, and player performances in matches.
3. **Player Rating Service (Rating MS)**
   * Stores and retrieves player ratings based on batting and bowling performances.
4. **Ranking Management Service (Ranking MS)**
   * Calculates and stores rankings for players and teams based on performance and rating points.

**Detailed API Endpoints**

### 1. Player Management Service (Player MS)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Endpoint** | **HTTP Method** | **Description** | **Request Body** | **Response** |
| /players | POST | Create a new player | Player data (JSON) | Player details |
| /players/{id} | GET | Retrieve player details by ID | None | Player details |
| /players | GET | Retrieve a list of all players | None | List of players |
| /players/search | GET | Search players by name, age, or country | name, age, country | List of players |
| /players/{id} | PUT | Update player details by ID | Player data (JSON) | Updated player details |

**Player Data Model**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| id | UUID | Primary Key, unique identifier for the player |
| first\_name | String | Player's first name |
| last\_name | String | Player's last name |
| age | Integer | Player's age |
| country | String | Country the player represents |
| image\_url | String | URL of the player's profile image |
| batting\_avg | Double | Batting average (calculated based on performance) |
| batting\_sr | Double | Batting strike rate (calculated based on performance) |
| bowling\_avg | Double | Bowling average (calculated based on performance) |
| bowling\_sr | Double | Bowling strike rate (calculated based on performance) |

### 2. Match Management Service (Match MS)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Endpoint** | **HTTP Method** | **Description** | **Request Body** | **Response** |
| /matches | POST | Create a new match | Match data (JSON) | Match details |
| /matches/{id} | GET | Retrieve match details by ID | None | Match details |
| /matches | GET | Retrieve a list of all matches | None | List of matches |
| /matches/{id}/result | POST | Submit match result (team scores) | Match result (JSON) | Updated match result |

**Match Data Model**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| id | UUID | Primary Key, unique identifier for the match |
| match\_date | Date | Date and time of the match |
| team\_1\_id | UUID | Foreign key reference to Team 1 (from teams table) |
| team\_2\_id | UUID | Foreign key reference to Team 2 (from teams table) |
| team\_1\_score | Integer | Score for Team 1 (total runs) |
| team\_2\_score | Integer | Score for Team 2 (total runs) |
| match\_winner | String | Winner of the match (team\_1 or team\_2) |

### 3. Player Rating Service (Rating MS)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Endpoint** | **HTTP Method** | **Description** | **Request Body** | **Response** |
| /players/{id}/ratings | POST | Create or update player rating | Rating data (JSON) | Player rating details |
| /players/{id}/ratings | GET | Retrieve player rating by ID | None | Player rating |

**Player Rating Data Model**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| id | UUID | Primary Key, unique identifier for the player rating |
| player\_id | UUID | Foreign key reference to Player (from players table) |
| batting\_points | Integer | Batting points based on performance in recent matches |
| bowling\_points | Integer | Bowling points based on performance in recent matches |

### 4. Ranking Management Service (Ranking MS)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Endpoint** | **HTTP Method** | **Description** | **Request Body** | **Response** |
| /rankings/player | POST | Create or update player ranking | Ranking data (JSON) | Player ranking |
| /rankings/team | POST | Create or update team ranking | Ranking data (JSON) | Team ranking |
| /rankings/player | GET | Retrieve all player rankings | None | List of player rankings |
| /rankings/player/{id} | GET | Retrieve player ranking by ID | None | Player ranking |
| /rankings/team | GET | Retrieve all team rankings | None | List of team rankings |
| /rankings/team/{id} | GET | Retrieve team ranking by ID | None | Team ranking |

**Ranking Data Model**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| id | UUID | Primary Key, unique identifier for the player ranking |
| player\_id | UUID | Foreign key reference to Player (from players table) |
| ranking\_points | Integer | Calculated ranking points based on performance |
| ranking | Integer | Player's rank based on points |

### 5. Player Performance Service (Performance MS)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Endpoint** | **HTTP Method** | **Description** | **Request Body** | **Response** |
| /matches/{matchId}/performances | POST | Submit player performance for a specific match | Performance data (JSON) | Performance details |
| /matches/{matchId}/performances/{playerId} | GET | Retrieve player performance for a specific match | None | Player performance |

**Player Performance Data Model**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| id | UUID | Primary Key, unique identifier for the performance |
| player\_id | UUID | Foreign key reference to Player (from players table) |
| match\_id | UUID | Foreign key reference to Match (from matches table) |
| runs\_scored | Integer | Runs scored by the player in the match |
| balls\_faced | Integer | Balls faced by the player |
| strike\_rate | Double | Batting strike rate |
| wickets\_taken | Integer | Wickets taken by the player |
| runs\_conceded | Integer | Runs conceded by the player (bowling) |
| overs\_bowled | Integer | Overs bowled by the player |
| economy\_rate | Double | Economy rate for the bowler |