# Class Introduction

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| Entity |
| +Id: Integer |
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## Model

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| Game |
| +roundNo: Byte  +team1: Integer  +team2: Integer  +winner: Integer  +team1Name: String  +team2Name: String  +winnerName: String |
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| Participant |
| +name: String |
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| Team |
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| Person |
| +idDocNumber: String  +teamId: Integer |
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| PersonInternal |
| +role: Byte |
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| Const(Interface) |
| Define Const used in the system:  Status code options  Status message options  Person roles  Max length of Strings  Max round no of game  Response format |
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| Response<T extends Entity> |
| +statusCode: int  +statusMsg: String  +entities: ArrayList<T> |
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## Repository

### DbApi

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| DbApi |
| -mySqlHost: String  -mySqlPort: String  -mySqlDb: String  -mySqlUsername: String  -mySqlPassword: String  -dataSource: HikariDataSource  -lock: Lock |
| +finalize()  -initialize()  ~getConnection(): Connection  ~readByColumn(String colName, String tableName, Class<? extends Entity> cls, Object colValue): Response  ~readTable(String tableName, Class<? extends Entity> cls): Response  ~readByFilters(String tableName, Class<? extends Entity> cls, String filters, ArrayList<Object> parameters): Response  ~read(String sql, Class<? extends Entity> cls): Response  ~read(String sql, ArrayList<Object> parameters, Class<? extends Entity> cls): Response  -getResultColumnFieldMap(Class cls, ResultSetMetaData resultSetMetaData): HashMap<String, Field>  ~read(Connection connection, String sql, ArrayList<Object> parameters, Class<? extends Entity> cls): Response  -getColNames(Connection connection, String tableName): ArrayList<String>  ~write(Optional<? extends Entity> optionalEntity, String tableName): Response  ~write(Connection connection, Optional<? extends Entity> optionalEntity, String tableName): Response  ~delete(Integer id, String tableName): Response  ~delete(Connection connection, Integer id, String tableName): Response  ~executeNonQuery(String sql, ArrayList<Object> parameters): Response  ~executeNonQuery(Connection connection, String sql, ArrayList<Object> parameters): Response |

### **IBaseRepository**

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| IBaseRepository |
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| +readAll(): Response<? extends Entity>  +readById(Integer id): Response<? extends Entity>  +delete(Integer id): Response |

### BaseRepository

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| BaseRepository |
| #dbApi: DbApi |
| BaseRepository(DbApi dbApi)  readById(Integer id, String tableName, Class cls): Response |

### GameRepository

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| GameRepository |
| #teamRepository: TeamRepository  -tableName: String  -cls: Class  -sqlReadAll: String |
| +GameRepository(DbApi dbApi, TeamRepository teamRepository)  +readAll(): Response  +readById(Integer id): Response  +read(Byte roundNo, Integer team1, Integer team2): Response  +setGameResult(Integer id, Integer winner): Response  +write(Game game): Response  +delete(Integer id): Response |

### ParticipantRepository

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| ParticipantRepository |
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| +ParticipantRepository(DbApi dbApi)  #readByName(String name, String tableName, Class cls) |

### TeamRepository

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| --- |
| TeamRepository |
| -tableName: String  -cls: Class |
| TeamRepository(DbApi dbApi)  +readAll(): Response  +readById(Integer id): Response  +readByName(String name): Response  +write(Team team): Response  +delete(Integer id): Response |

### PersonRepository

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| PersonRepository |
| #teamRepository: TeamRepository  -tableName: String  -clsOutput: Class  -clsOutput1: Class |
| PersonRepository(DbApi dbApi, TeamRepository teamRepository)  #readByRole(Byte role): Response  #readById(Integer id, Byte role): Response  +readByIdDocNumber(String idDocNumber): Response  #write(Person person, Byte role): Response  #delete(Integer id, Byte role): Response |

### CoachRepository

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| CoachRepository |
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| +readAll(): Response  +readById(Integer id): Response  +write(Person person): Response  +delete(Integer id): Response |

### CoachRepository

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| PlayerRepository |
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| +readAll(): Response  +readById(Integer id): Response  +write(Person person): Response  +delete(Integer id): Response |

## Service

### IService

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| IService(Interface) |
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| readAll(): Response<? extends Entity>  readById(Integer id): Response<? extends Entity>  delete(Integer id): Response |

### TeamService

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| TeamService |
| -teamRepository: TeamRepository |
| +TeamService(TeamRepository teamRepository)  +readAll(): Response<Team>: Response<Team>  +readById(Integer id): Response<Team>  +write(Team team): Response  +delete(Integer id): Response |

### GameService

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| --- |
| GameService |
| -gameRepository: GameRepository |
| +GameService(GameRepository gameRepository)  +readAll(): Response<Game>  +readById(Integer id): Response<Game>  +setGameResult(Integer id, Integer winner): Response  +write(Game game): Response  +delete(Integer id): Response |

### CoachService

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| CoachService |
| -coachRepository: CoachRepository |
| +CoachService(CoachRepository coachRepository)  +readAll(): Response<Person>  +readById(Integer id): Response<Person>  +write(Person person): Response  +delete(Integer id): Response |

### PlayerService

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| PlayerService |
| -playerRepository: PlayerRepository |
| +PlayerService(PlayerRepository playerRepository)  +readAll(): Response<Person>  +readById(Integer id): Response<Person>  +write(Person person): Response  +delete(Integer id): Response |

## Controller

### IController

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| IController |
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| +readAll(): Response<? extends Entity>  +readById(Integer id): Response<? extends Entity>  +delete(Integer id): Response |

### TeamController

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| TeamController |
| -teamService: TeamService |
| +TeamController(TeamService teamService)  +readAll(): Response<Team>  +readById(@RequestParam Integer id): Response<Team>  +write(@RequestBody Team team): Response  +delete(@RequestParam Integer id): Response |

### GameController

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| --- |
| GameController |
| -gameService: GameService |
| +GameController(GameService gameService)  +readAll(): Response<Game>  +readById(@RequestParam Integer id): Response<Game>  +write(@RequestBody Game game): Response  +delete(@RequestParam Integer id): Response |

### CoachController

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| CoachController |
| -coachService: CoachService |
| +CoachController(CoachService coachService)  +readAll(): Response<Person>  +readById(@RequestParam Integer id): Response<Person>  +write(@RequestBody Person coach): Response  +delete(@RequestParam Integer id): Response |

### PlayerController

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| --- |
| PlayerController |
| -playerService: PlayerService |
| +PlayerController(PlayerService playerService)  +readAll(): Response<Person>  +readById(@RequestParam Integer id): Response<Person>  +write(@RequestBody Person coach): Response  +delete(@RequestParam Integer id): Response |