Spring Data, JPA - Configuration

```yaml
spring:
  datasource:
    # jdbc database url
    url: jdbc:postgresql://localhost:5432/booking
    # username for the db user
    username: ${DB_USERNAME}
    # password for the db user
    password: ${DB_PASSWORD}
```

Pass environment variables

```
export DB_USERNAME="db_user"
export DB_PASSWORD="change_secret"
```

Flyway

- [Flyway Migration](#)
- SQL is executed automatically on application start
- helps to keep the schema in sync with the code

```yaml
spring:
  flyway:
    locations: classpath:db/migration
    schemas: public
    enabled: true
```

Flyway On Spring Boot Startup

Run via command line

```
# Needs these set:
# export DB_USERNAME="db_user"
# export DB_PASSWORD="change_secret"
mvn spring-boot:run
```

or run from Intellij

Java Persistence Entity

```java
@Entity
public class Player {
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    @NotNull
    private Long id;

    @NotNull
    private String name;

    @NotNull
    private LocalDate birthday;
}
```

Java Persistence Mapping

```java
@Entity
public class Booking {
  // ...

  @ManyToOne
  @JoinColumn(name = "player_id", nullable = false)
  private Player player;


  // ...
}
```

Integration Testing

- [Testcontainers](#)

- [Testcontainers Postgres Module Reference Guide](#)

- Non-docker alternative: H2 in memory DB

Test Containers

```yaml
spring:
  datasource:
    driver-class-name: org.testcontainers.jdbc.ContainerDatabaseDriver
    url: jdbc:tc:postgresql:13.3:///booking
    username: ${EMBEDDED_DB_USERNAME}
    password: ${EMBEDDED_DB_PASSWORD}
```

Transactions

```
@Service
@Transactional
public class PlayerService {
...
}
```