

ToiletPaper #158

Embedded Database with Zonky

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✗ Problem

For integration testing, it has become common practice to use an H2 or a Docker container of the connected database. Another option is an embedded database. This has the advantage of being just as close to the productive database as a corresponding Docker container. At the same time, however, a container is no longer required and test execution is a bit more performant.

✓ Solution

For Java projects, there is the project Zonky. This originally emerged as a fork from OpenTable Embedded PostgreSQL Component. Zonky supports embedded PostgreSQL DBs in integration testing. This version also spawned a version for the Spring project. See an example of how to embed Zonky in your integration tests in the following code snippets.

➔ Zonky

Zonky supports these data providers:

- Docker
- Zonky
- OpenTable
- Yandex

All data providers support PostgreSQL. Docker additionally supports MSSQL, MySQL and MariaDB.

Liquibase as well as Flyway can be used normally.

Test using an embedded DB provided by Zonky:

Maven integration:

```
<dependency>
  <groupId>io.zonky.test</groupId>
  <artifactId>
    embedded-database-spring-test
  </artifactId>
  <version>2.1.1</version>
  <scope>test</scope>
</dependency>
```

```
@AutoConfigureEmbeddedDatabase //Annotation of Zonky which leads the test to use an embedded DB
public class RepoIT {

    @Autowired
    private Repository repo;

    @Test
    public void ZonkyTest() {
        User user = new User(1, "First name", "Last name");
        repo.save(user);
        Optional<User> found = repo.findById(user.getId());
        assertTrue(found.isPresent());
    }
}
```

Config in application.xml:

```
zonky.test.database.type=auto # Possible values: AUTO, POSTGRES, MSSQL, MYSQL, MARIADB, H2
zonky.test.database.provider=default # Possible values: DEFAULT, DOCKER, ZONKY, OPENTABLE, YANDEX, EMBEDDED
```

+ Further Aspects

- <https://github.com/zonkyio/embedded-postgres>
- <https://github.com/zonkyio/embedded-database-spring-test>