

LESSON 2

SPRING DATA

***TAPPING THE SOURCE OF
PURE KNOWLEDGE***

Spring Data

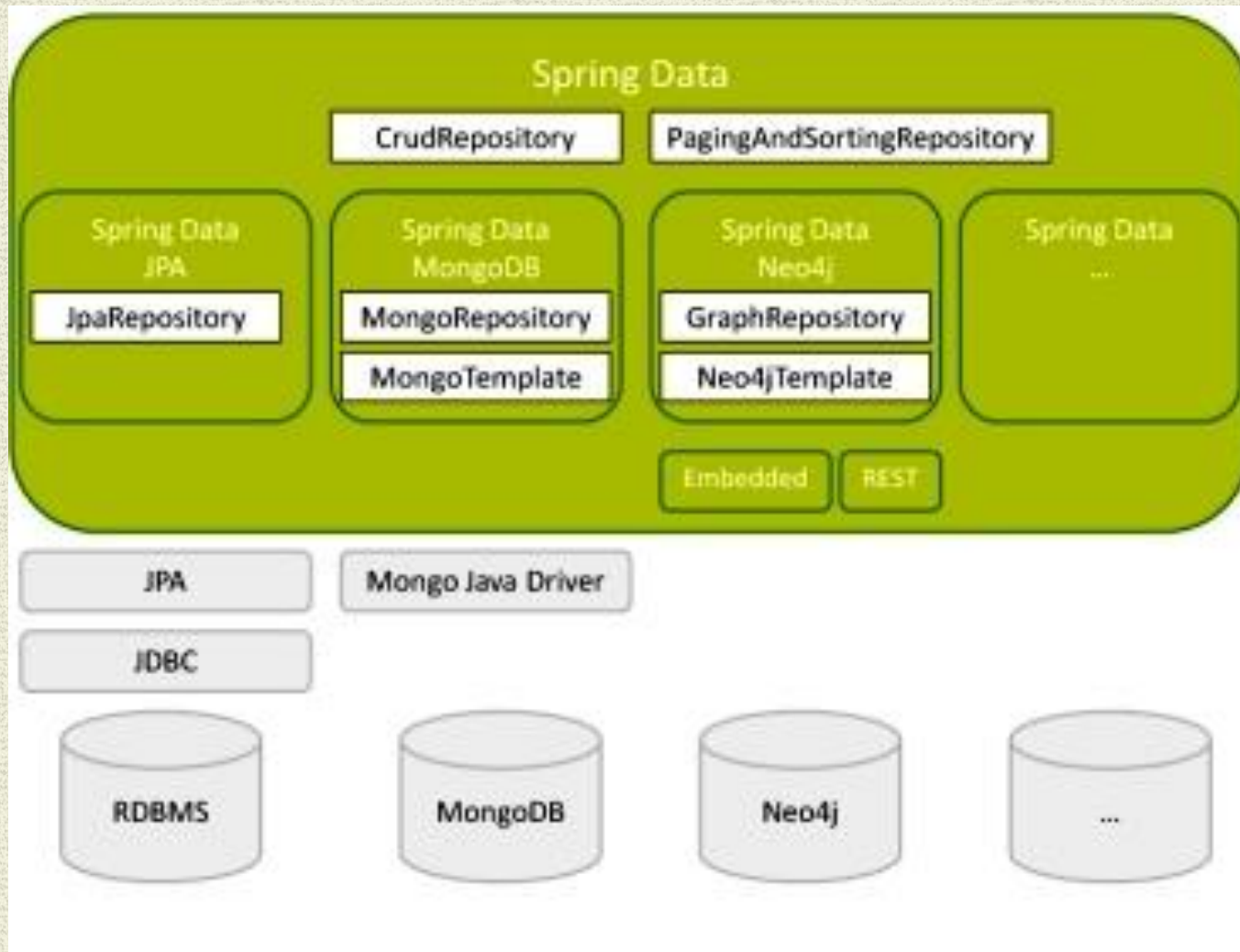
Spring Data

High level SpringSource project whose purpose is to unify and ease the access to different kinds of persistence stores, both relational database systems and NoSQL data stores.

Hibernate ORM

(Hibernate for short) is an object-relational mapping Java library; a framework for mapping an object-oriented domain model to a traditional relational database. Distributed under the GNU Lesser General Public License

Spring Data Project



Spring Data Repositories

Spring Data repository abstraction

Significantly reduce the amount of boilerplate code required to implement data access layers

Domain Object specific wrapper that provides capabilities on top of EntityManager

Performs function of a Base Class DAO

Three Types:

CrudRepository provides CRUD functions .

- **PagingAndSortingRepository** provide methods to do pagination and sorting records.

JpaRepository provides methods such as flushing the persistence context and delete record in a batch

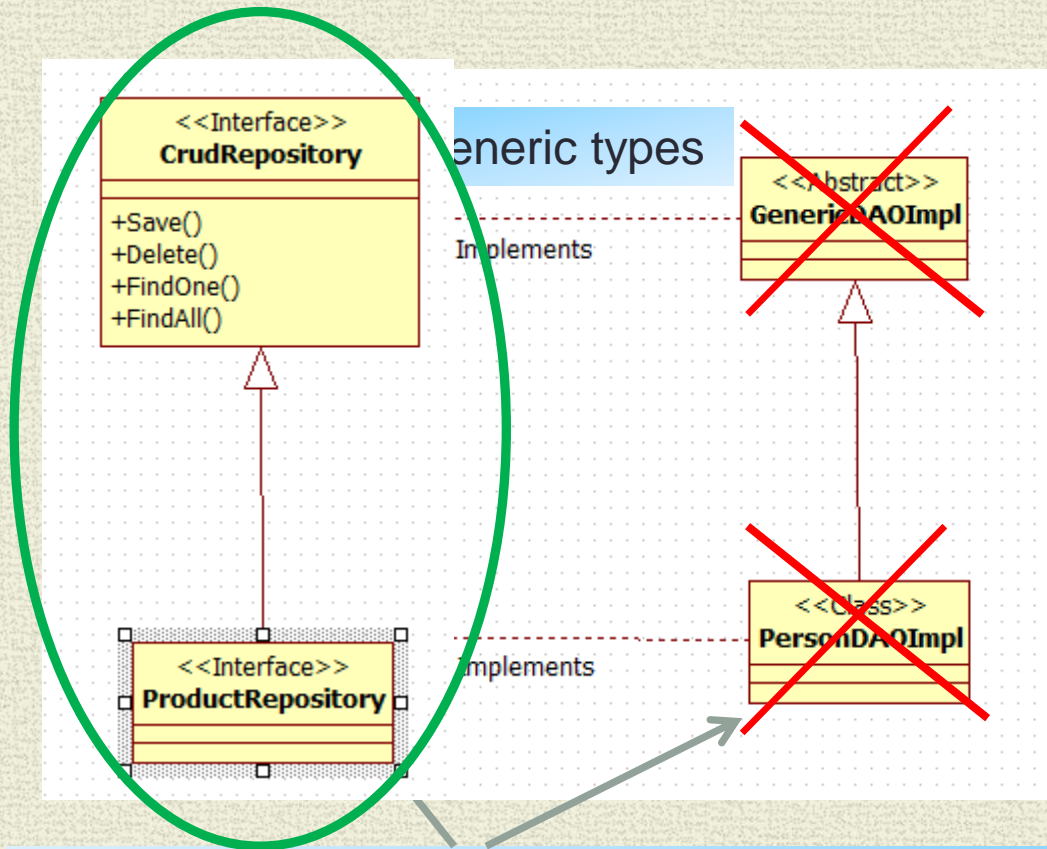
CrudRepository

```
public interface CrudRepository<T, ID extends Serializable>  
    extends Repository<T, ID> {  
    <S extends T> S save(S entity);  
    T findOne(ID primaryKey);  
    Iterable<T> findAll();  
    Long count();  
    void delete(T entity);  
    boolean exists(ID primaryKey);  
}
```

LOOKS just Like [what is Known as] a “generic DAO interface”
HOWEVER, Spring provides [default] implementations – effectively
Java 8-like default methods in an interface

“Classic” ORM GenericDAO

Spring Data



Adds Domain Object specific functionality

Spring Version of DAO

@Service

@Transactional

public class **ProductServiceImpl** implements ProductService {

@Autowired

ProductRepository productRepository; // “ProductDAOImpl”

```
public void createProduct(Product product) {  
    productRepository.save(product );  
}
```

ProductDAOImpl

@Repository

public interface ProductRepository extends CrudRepository<Product, Long> { }

“Automatically” creates CRUD services

Spring Data Repository Query Resolution

Query examples

- **CREATE example**

- `Employee findById(long id);`

- **USE DECLARED QUERY example**

- `@Query("SELECT e FROM Employee e where EMP_ID = :id")`
- `Employee findById(@Param("id") long id);`

- **Use class level declared query EXAMPLE**

- `public static final String FIND_BY_ID_QUERY = "select e from
Employee e where EMP_ID = :id";`

- `@Query(FIND_BY_ID_QUERY)`
- `Employee findById(@Param("id") long id);`