**⇒ Mandatory Hands-on**

**Hands on 1: Spring Data JPA - Quick Example** 

com/cognizant/ormlearn/OrmLearnApplication.java

**package com.cognizant.ormlearn;**

**import java.util.List;**

**import org.slf4j.Logger;**

**import org.slf4j.LoggerFactory;**

**import org.springframework.boot.SpringApplication;**

**import org.springframework.boot.autoconfigure.SpringBootApplication;**

**import org.springframework.context.ApplicationContext;**

**import com.cognizant.ormlearn.Country;**

**import com.cognizant.ormlearn.service.CountryService;**

***@SpringBootApplication***

**public class OrmLearnApplication {**

**private static final Logger *LOGGER* = LoggerFactory.*getLogger*(OrmLearnApplication.class);**

**private static CountryService *countryService*;**

**public static void main(String[] args) {**

**ApplicationContext context = SpringApplication.*run*(OrmLearnApplication.class, args);**

***countryService* = context.getBean(CountryService.class);**

***testGetAllCountries*();**

**}**

**private static void testGetAllCountries() {**

***LOGGER*.info("Start");**

**List<Country> countries = *countryService*.getAllCountries();**

***LOGGER*.debug("countries={}", countries);**

***LOGGER*.info("End");**

**}**

**}**

com/cognizant/ormlearn/Country.java

**package com.cognizant.ormlearn;**

**import jakarta.persistence.Column;**

**import jakarta.persistence.Entity;**

**import jakarta.persistence.Id;**

**import jakarta.persistence.Table;**

**@Entity**

**@Table(name = "country")**

**public class Country {**

**@Id**

**@Column(name = "code")**

**private String code;**

**@Column(name = "name")**

**private String name;**

**public String getCode() { return code; }**

**public void setCode(String code) { this.code = code; }**

**public String getName() { return name; }**

**public void setName(String name) { this.name = name; }**

**@Override**

**public String toString() {**

**return "Country [code=" + code + ", name=" + name + "]";**

**}**

**}**

com/cognizant/ormlearn/repository/CountryRepository.java

package com.cognizant.ormlearn.repository;

import org.springframework.data.jpa.repository.JpaRepository;

import org.springframework.stereotype.Repository;

import com.cognizant.ormlearn.Country;

*@Repository*

public interface CountryRepository extends JpaRepository<Country, String> {

}

com/cognizant/ormlearn/service/CountryService.java

package com.cognizant.ormlearn.service;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.stereotype.Service;

import org.springframework.transaction.annotation.Transactional;

import com.cognizant.ormlearn.Country;

import com.cognizant.ormlearn.repository.CountryRepository;

*@Service*

public class CountryService {

*@Autowired*

private CountryRepository countryRepository;

*@Transactional*

public List<Country> getAllCountries() {

return countryRepository.findAll();

}

}

**Output:**

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:: Spring Boot :: (v3.5.3)

2025-07-07T13:11:11.099+05:30 INFO 10208 --- [orm-learn] [ restartedMain] c.c.ormlearn.OrmLearnApplication : Starting OrmLearnApplication using Java 23.0.2 with PID 10208 (C:\Users\zerub\eclipse-workspace\orm-learn\target\classes started by zerub in C:\Users\zerub\eclipse-workspace\orm-learn)

2025-07-07T13:11:11.102+05:30 DEBUG 10208 --- [orm-learn] [ restartedMain] c.c.ormlearn.OrmLearnApplication : Running with Spring Boot v3.5.3, Spring v6.2.8

2025-07-07T13:11:11.104+05:30 INFO 10208 --- [orm-learn] [ restartedMain] c.c.ormlearn.OrmLearnApplication : No active profile set, falling back to 1 default profile: "default"

2025-07-07T13:11:11.192+05:30 INFO 10208 --- [orm-learn] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property defaults active! Set 'spring.devtools.add-properties' to 'false' to disable

2025-07-07T13:11:11.956+05:30 INFO 10208 --- [orm-learn] [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in DEFAULT mode.

2025-07-07T13:11:12.044+05:30 INFO 10208 --- [orm-learn] [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 70 ms. Found 1 JPA repository interface.

2025-07-07T13:11:12.549+05:30 INFO 10208 --- [orm-learn] [ restartedMain] o.hibernate.jpa.internal.util.LogHelper : HHH000204: Processing PersistenceUnitInfo [name: default]

2025-07-07T13:11:12.649+05:30 INFO 10208 --- [orm-learn] [ restartedMain] org.hibernate.Version : HHH000412: Hibernate ORM core version 6.6.18.Final

2025-07-07T13:11:12.716+05:30 INFO 10208 --- [orm-learn] [ restartedMain] o.h.c.internal.RegionFactoryInitiator : HHH000026: Second-level cache disabled

2025-07-07T13:11:13.207+05:30 INFO 10208 --- [orm-learn] [ restartedMain] o.s.o.j.p.SpringPersistenceUnitInfo : No LoadTimeWeaver setup: ignoring JPA class transformer

2025-07-07T13:11:13.245+05:30 INFO 10208 --- [orm-learn] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...

2025-07-07T13:11:13.734+05:30 INFO 10208 --- [orm-learn] [ restartedMain] com.zaxxer.hikari.pool.HikariPool : HikariPool-1 - Added connection org.postgresql.jdbc.PgConnection@4fbdf28d

2025-07-07T13:11:13.739+05:30 INFO 10208 --- [orm-learn] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start completed.

2025-07-07T13:11:13.802+05:30 WARN 10208 --- [orm-learn] [ restartedMain] org.hibernate.orm.deprecation : HHH90000025: PostgreSQLDialect does not need to be specified explicitly using 'hibernate.dialect' (remove the property setting and it will be selected by default)

2025-07-07T13:11:13.838+05:30 INFO 10208 --- [orm-learn] [ restartedMain] org.hibernate.orm.connections.pooling : HHH10001005: Database info:

Database JDBC URL [Connecting through datasource 'HikariDataSource (HikariPool-1)']

Database driver: undefined/unknown

Database version: 16.8

Autocommit mode: undefined/unknown

Isolation level: undefined/unknown

Minimum pool size: undefined/unknown

Maximum pool size: undefined/unknown

2025-07-07T13:11:15.399+05:30 INFO 10208 --- [orm-learn] [ restartedMain] o.h.e.t.j.p.i.JtaPlatformInitiator : HHH000489: No JTA platform available (set 'hibernate.transaction.jta.platform' to enable JTA platform integration)

2025-07-07T13:11:15.520+05:30 INFO 10208 --- [orm-learn] [ restartedMain] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'

2025-07-07T13:11:16.465+05:30 INFO 10208 --- [orm-learn] [ restartedMain] o.s.b.d.a.OptionalLiveReloadServer : LiveReload server is running on port 35729

2025-07-07T13:11:16.502+05:30 INFO 10208 --- [orm-learn] [ restartedMain] c.c.ormlearn.OrmLearnApplication : Started OrmLearnApplication in 5.967 seconds (process running for 6.635)

2025-07-07T13:11:16.512+05:30 INFO 10208 --- [orm-learn] [ restartedMain] c.c.ormlearn.OrmLearnApplication : Start

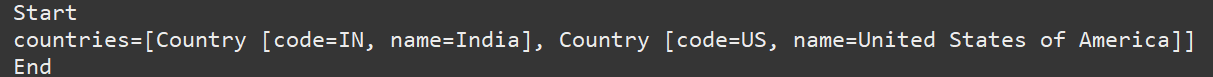
2025-07-07T13:11:16.813+05:30 DEBUG 10208 --- [orm-learn] [ restartedMain] c.c.ormlearn.OrmLearnApplication : countries=[Country [code=IN, name=India], Country [code=US, name=United States of America]]

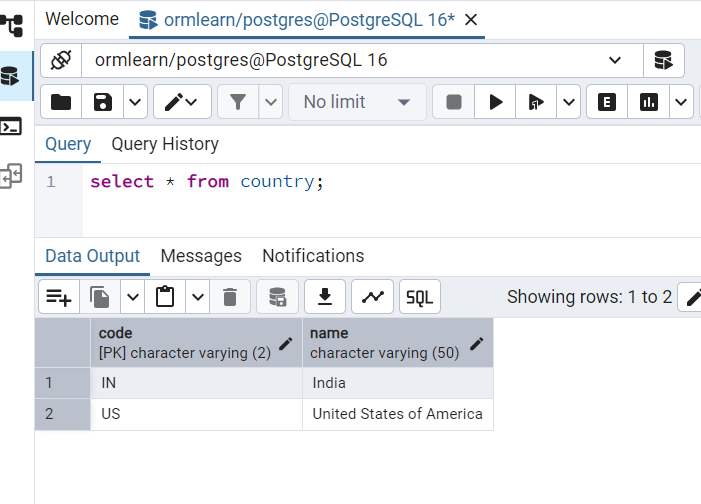
2025-07-07T13:11:16.813+05:30 INFO 10208 --- [orm-learn] [ restartedMain] c.c.ormlearn.OrmLearnApplication : End

2025-07-07T13:11:16.822+05:30 INFO 10208 --- [orm-learn] [ionShutdownHook] j.LocalContainerEntityManagerFactoryBean : Closing JPA EntityManagerFactory for persistence unit 'default'

2025-07-07T13:11:16.826+05:30 INFO 10208 --- [orm-learn] [ionShutdownHook] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Shutdown initiated...

2025-07-07T13:11:16.838+05:30 INFO 10208 --- [orm-learn] [ionShutdownHook] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Shutdown completed.





**Hands on 4: Difference between JPA, Hibernate and Spring Data JPA** 