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SPRING MySQL Database Connection using JDBC STEPS

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Step1: Create maven project

Group id: com.cdac

Artifact id: spring-database-connection

Version : 1.0

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Step 2: Create file Spring-intro/src/main/resources **app-config.xml** file
And add following dependencies

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```
<?xml version="1.0" encoding="UTF-8"?>
<beans
        xmlns="http://www.springframework.org/schema/beans"
        xmlns:context="http://www.springframework.org/schema/context"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="
      http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/spring-beans.xsd
      http://www.springframework.org/schema/context
http://www.springframework.org/schema/context/spring-context.xsd">

        <context:component-scan base-package="com.cdac.component" />

</beans>
```

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Step 3: add following dependencies **pom.xml** file

```
        <dependencies>
```

```
		<dependency>
			<groupId>org.springframework</groupId>
			<artifactId>spring-context</artifactId>
			<version>5.3.15</version>
		</dependency>
		<dependency>
			<groupId>org.springframework</groupId>
			<artifactId>spring-jdbc</artifactId>
			<version>5.3.15</version>
		</dependency>
		<dependency>
			<groupId>mysql</groupId>
			<artifactId>mysql-connector-java</artifactId>
			<version>8.0.26</version>
		</dependency>
		<dependency>
			<groupId>junit</groupId>
			<artifactId>junit</artifactId>
			<version>4.13.2</version>
		</dependency>
	</dependencies>
```

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Step 4: create **Interface** file **CarPartsInventory.java** file in **com.cdac.component** package

```
package com.cdac.component;
import java.util.List;
public interface CarPartsInventory {
	public void addNewPart(CarPart carPart);
	public List<CarPart> getAvailableParts();
}
```

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Step5: create **CarPart.java** file in **com.cdac.app package**

```
package com.cdac.component;
public class CarPart {

	private int partNo;
	private String partName;
	private String carModel;
	private double price;
	private int quantity;

	public int getPartNo() {
		return partNo;
	}
	public void setPartNo(int partNo) {
		this.partNo = partNo;
	}
	public String getPartName() {
		return partName;
	}
	public void setPartName(String partName) {
		this.partName = partName;
	}
	public String getCarModel() {
		return carModel;
	}
	public void setCarModel(String carModel) {
		this.carModel = carModel;
	}
	public double getPrice() {
		return price;
	}
	public void setPrice(double price) {
		this.price = price;
	}
	public int getQuantity() {
```

```
		return quantity;
	}
	public void setQuantity(int quantity) {
		this.quantity = quantity;
	}
}
```

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Step 6: implement **CarPartsInventory interface** in **CarPartsInventoryimp1**
And also add JDBC database connection

```
package com.cdac.component;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.SQLException;
import java.util.List;

import org.springframework.stereotype.Component;

@Component("carParts1")
public class CarPartsInventoryImpl1 implements CarPartsInventory {

	public void addNewPart(CarPart carPart) {
		Connection conn = null;
		PreparedStatement stmt = null;
		try {
			Class.forName("com.mysql.cj.jdbc.Driver");
			conn =
DriverManager.getConnection("jdbc:mysql://localhost:3306/training", "root",
"cdac");
			stmt = conn.prepareStatement("INSERT INTO
tbl_carpart(part_name, car_model, price, quantity) VALUES(?, ?, ?, ?)");
			stmt.setString(1, carPart.getPartName());
			stmt.setString(2, carPart.getCarModel());
```

```
                stmt.setDouble(3, carPart.getPrice());
                stmt.setInt(4, carPart.getQuantity());
                stmt.executeUpdate(); //DML
            }
            catch (ClassNotFoundException | SQLException e) {
                e.printStackTrace(); //rather we should throw some user
defined exception
            }
            finally {
                try { conn.close(); } catch(Exception e) { }
            }
        }

        public List<CarPart> getAvailableParts() {
            return null;
        }


}
```

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Step 7: add class file **App.java** file in **com.cdac.app** package

```
package com.cdac.app;
import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;
import com.cdac.component.CarPart;
import com.cdac.component.CarPartsInventory;

public class App {

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

```
		ApplicationContext ctx = new
ClassPathXmlApplicationContext("app-config.xml");
		CarPartsInventory cp = (CarPartsInventory)
ctx.getBean("carParts1");

		CarPart c = new CarPart();
		c.setPartName("Nut & Bolt");
		c.setCarModel("Maruti 800");
		c.setPrice(500);
		c.setQuantity(99);
		cp.addNewPart(c);

	}
}
```

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Step 8: write following Query in **SQL**
TODO: Create Table in the DB before running this example

```
create table tbl_carpart(part_no int primary key auto_increment, part_name
varchar(30), car_model varchar(35), price double, quantity int);
```

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See OUTPUT in MySQL

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```
+---------+------------+------------+-------+----------+----------+
| part_no | part_name  | car_model  | price | quantity   |
+---------+------------+------------+-------+----------+----------+
|       1     | Nut & Bolt   | Maruti 800  |   500 |       99     |
+---------+------------+------------+-------+----------+----------+
```