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SPRING STEPS
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Step1: Create Simple maven project
> **Group id:** com.cdac
> **Artifact id:** spring-intro
> **Version** : 1.0

```
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```

Step 2: **Google search:** "core spring dependencies" and copy
Link:
https://mvnrepository.com/artifact/org.springframework/spring-core/5.3.15

```
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```

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

```
 <dependencies>
<!-- https://mvnrepository.com/artifact/org.springframework/spring-core -->
<dependency>
   <groupId>org.springframework</groupId>
   <artifactId>spring-context</artifactId>
   <version>5.3.15</version>
</dependency>
 </dependencies>
```

```
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```
Step 4: create class file **Helloworld.java** file in
> **com.cdac.component** package

```
package com.cdac.component;
public class HelloWorld {
     public String SayHello(String name) {
            return "Hello"+ name.toUpperCase();
     }
}
```

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Step5: create XML file Spring-intro/src/main/resources **app-config.xml** file

Google search-->"Spring config xml"

Link
https://docs.spring.io/spring-framework/docs/4.2.x/spring-framework-reference/html/xsd-configuration.html

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```xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    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">

    <!-- bean definitions here -->
<bean id="hw" class="com.cdac.component.helloworld" />
</beans>
```
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Step 6: create **app.java** file in com.cdac.app package

```java
com.cdac.app
package com.cdac.app;
import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;
import com.cdac.component.HelloWorld;
public class App {

    public static void main(String[] args) {
        ApplicationContext ctx = new
ClassPathXmlApplicationContext("app-config.xml");
        HelloWorld h=(HelloWorld) ctx.getBean("hw");
```

```
            System.out.println(h.SayHello("  Dnyaneshwar"));
        }
}
```

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Step 7: we want add one more class then

Add class **calculator.java** in—> **com.cdac.component**
package com.cdac.component;

```
public class Calculator {
        public int add(int x, int y) {
                return x + y;
        }
}
```

And add App.JAVA

```
Calculator c = (Calculator) ctx.getBean("calc");
System.out.println(c.add(10, 20));
```

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Step 8: add **app-config.xml** file following dependencies
<bean id="hw" class="com.cdac.component.helloworld" />
<bean id="calc" class="com.cdac.component.Calculator" />

==
Step9: in **app.java** create object of that class and access it

```
package com.cdac.app;
import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;
import com.cdac.component.Calculator;
import com.cdac.component.HelloWorld;

public class App
```

```java
public static void main(String[] args) {
ApplicationContext ctx = new ClassPathXmlApplicationContext("app-config.xml");
        HelloWorld h = (HelloWorld) ctx.getBean("hw");
        System.out.println(h.SayHello("Dnyaneshwar"));
        Calculator c = (Calculator) ctx.getBean("calc");
        System.out.println(c.add(10, 20));
}
}
```

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Now Change app-config.xml(Dependencies injection)
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```xml
<?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">

    <!-- bean definitions here -->
    <!-- Classes whose objects will be created by Spring -->
        <bean id="hw" class="com.cdac.component.HelloWorld" />
        <bean id="calc" class="com.cdac.component.Calculator" />

        <!-- To enable loading of annotated beans -->
        <context:component-scan base-package="com.cdac.component" />
</beans>
```
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Step 10:create **CurrencyConverter** com.cdac.component package


```java
package com.cdac.component;
import org.springframework.stereotype.Component;
```

```java
@Component("cc")
public class CurrencyConverter {
    public double convert(String from, String to, double amount) {
        if(from.equals("USD") && to.equals("INR"))
            return amount * 74.47;
        else
            return -1;

    }
}
```

Create object in APP.java
```java
CurrencyConverter currConv = (CurrencyConverter) ctx.getBean("cc");
System.out.println(currConv.convert("USD", "INR", 75));
```

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Step1:Create class file in Spell checker in component package
```java
package com.cdac.component;
import org.springframework.stereotype.Component;
@Component("splChckr")
public class SpellChecker {
    public void checkSpellingMistakes(String doc) {
        System.out.println("Spelling check done for " + doc +" document..");
    }
}
```

Step2:Create class file in TextEditor component package

```java
package com.cdac.component;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Component;
@Component("txtEdtr")
public class TextEditor {

    @Autowired //DI
```

```java
        private SpellChecker sp;

        public void loadDocument(String doc) {
                System.out.println("Document " + doc + " loaded successfully..");
                //from here i want to call checkSpellingMistakes function of
SpellChecker class
                //SpellChecker sp = new SpellChecker(); --> we will not do this as
Spring is meant for this purpose
                sp.checkSpellingMistakes(doc);
        }
}
```

Step3: add this code in App.java file

```java
TextEditor te = (TextEditor) ctx.getBean("txtEdtr");
te.loadDocument("abc.txt");
```