- **Remove XML or Without XML Configuration** : -

1) @Configuration
2) @ComponentScan
3) @Bean

Previously when we was creating application we was using XML file that was provide data and object to IOC container but now in this example we are not using XML anymore we can do it with above notations.

```
c/main/java/com/spring/javaconfig/Javaconfig.java - Eclipse IDE
Project   Run   Window   Help

 1  package com.spring.javaconfig;
 2
 3  import org.springframework.context.annotation.ComponentScan;
 4  import org.springframework.context.annotation.Configuration;
 5
 6  @Configuration
 7  @ComponentScan(basePackages="com.spring.javaconfig")
 8  public class Javaconfig {
 9
10  }
11
```

```
<terminated> DemoMain [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (12-Dec-2023, 3:42:37 pm – 3:42:38 pm) [pid: 8832]
com.spring.javaconfig.Student@661972b0
i am reading book
```

@Bean : it is written above method that is returning object to indicate that object is given to IOC container.with the help of bean notation object will go to the IOC container.

Now u dont need to specify @component annotation

Screenshot 1 — Project Explorer and Student.java

Project Explorer
- BeanLifecycle
- Firstspring
- InjectCollectionType
- SpringStandaloneCollection
  - src/main/java
    - com.spring.javaconfig
      - DemoMain.java
      - Javaconfig.java
      - Student.java
    - com.spring.spel
      - Demo.java
      - Test.java
      - prac.xml
    - com.spring.SpringStandaloneCollection
    - com.spring.steroprac
    - com.spring.sterotype
  - src/test/java
  - JRE System Library [jdk-21]
  - Maven Dependencies
  - src
  - target
  - pom.xml

Tabs: prac.xml | Student.java × | DemoMain.java | Javaconfig.java

```java
package com.spring.javaconfig;

import org.springframework.stereotype.Component;

public class Student {
    public void show()
    {
        System.out.println("i am reading book");
    }
}
```

Console
```
<terminated> DemoMain [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (12-Dec-2023, 3:54:33 pm – 3:54:37 pm) [pid: 7940]
com.spring.javaconfig.Student@6b81ce95
i am reading book
```

Screenshot 2 — DemoMain.java

Tabs: prac.xml | Student.java | DemoMain.java × | Javaconfig.java

```java
package com.spring.javaconfig;
import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;
import org.springframework.context.annotation.AnnotationConfigApplicationContext;
public class DemoMain {

    public static void main(String[] args) {
        ApplicationContext con=new AnnotationConfigApplicationContext(Javaconfig.class);
        Student stu=con.getBean("getstu",Student.class);
        System.out.println(stu);
        stu.show();

    }

}
```

Console
```
<terminated> DemoMain [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (12-Dec-2023, 3:54:33 pm – 3:54:37 pm) [pid: 7940]
com.spring.javaconfig.Student@6b81ce95
i am reading book
```
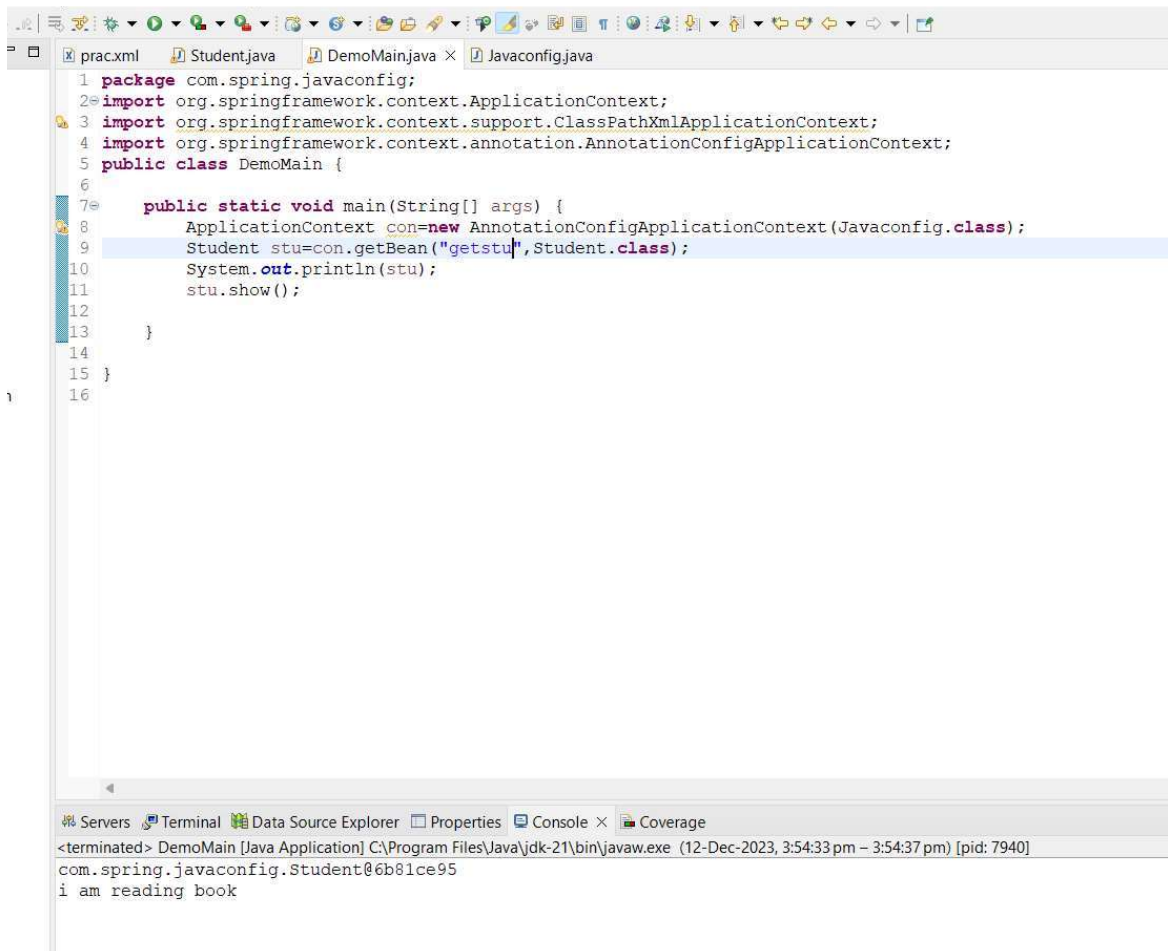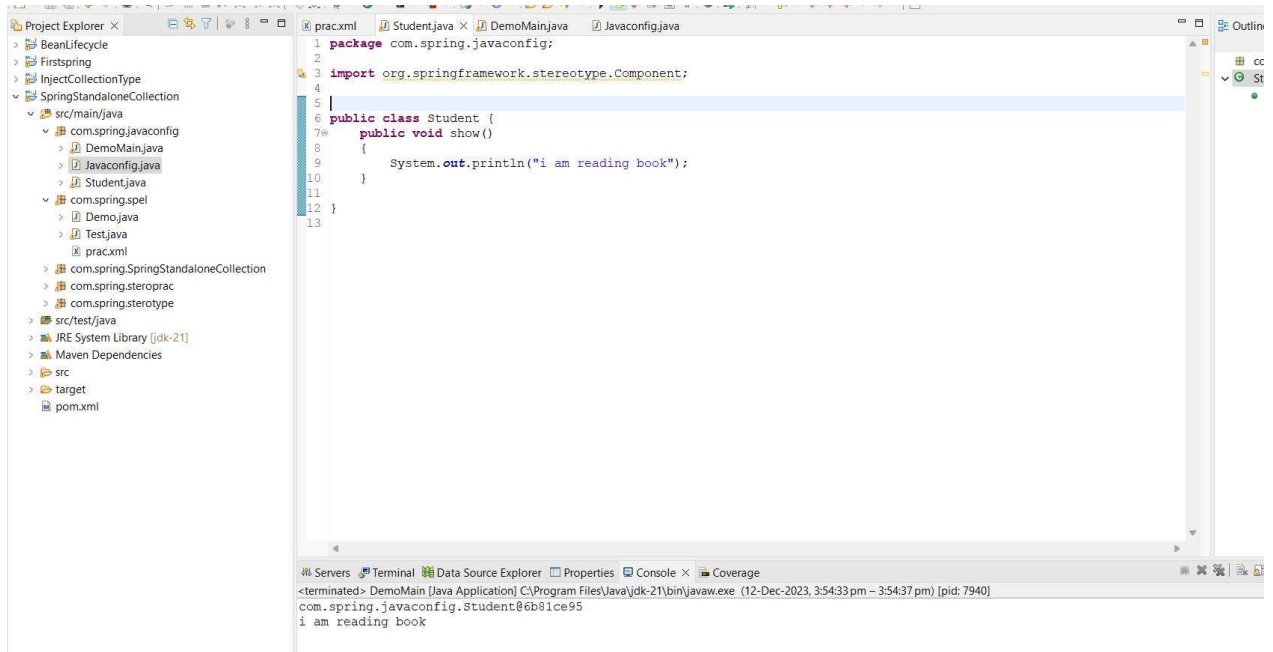
```java
1  package com.spring.javaconfig;
2
3  import org.springframework.context.annotation.Bean;
4  import org.springframework.context.annotation.ComponentScan;
5  import org.springframework.context.annotation.Configuration;
6
7  @Configuration
8  @ComponentScan(basePackages="com.spring.javaconfig")
9
10 public class Javaconfig {
11
12     @Bean
13     public Student getstu()
14     {
15         Student stu=new Student();
16         return stu;
17     }
18
19 }
20
```
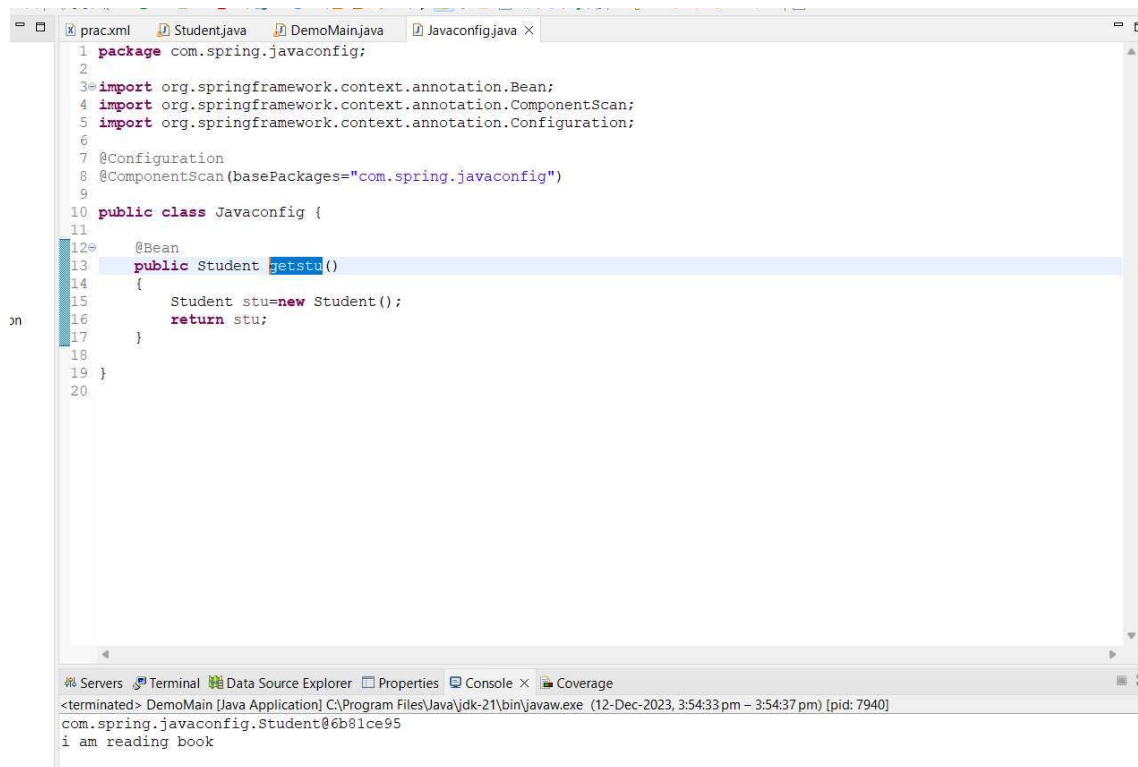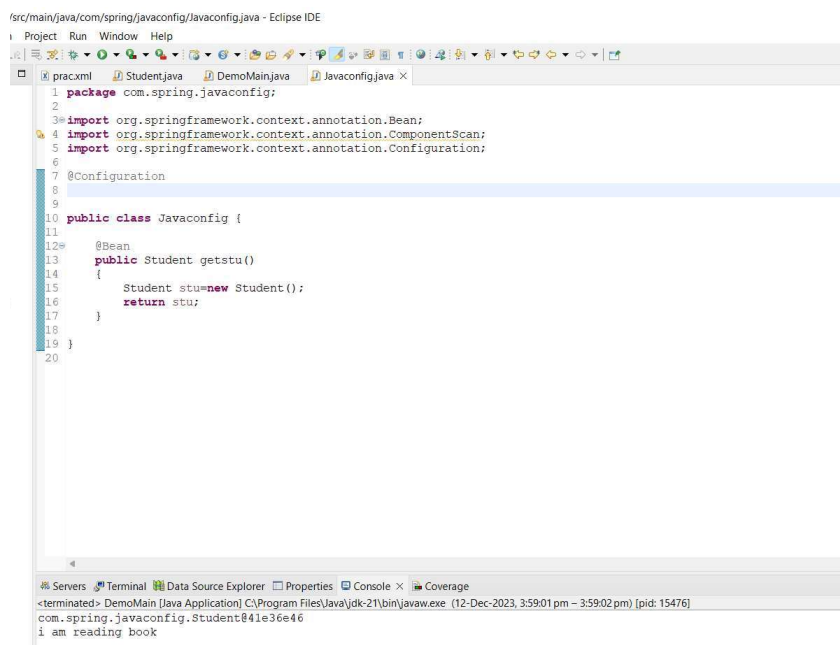
```
Servers  Terminal  Data Source Explorer  Properties  Console ×  Coverage
<terminated> DemoMain [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (12-Dec-2023, 3:54:33 pm – 3:54:37 pm) [pid: 7940]
com.spring.javaconfig.Student@6b81ce95
i am reading book
```

Even you can run it without @ComponentScan Annotation


```java
1  package com.spring.javaconfig;
2
3  import org.springframework.context.annotation.Bean;
4  import org.springframework.context.annotation.ComponentScan;
5  import org.springframework.context.annotation.Configuration;
6
7  @Configuration
8
9
10 public class Javaconfig {
11
12     @Bean
13     public Student getstu()
14     {
15         Student stu=new Student();
16         return stu;
17     }
18
19 }
20
```

```
Servers  Terminal  Data Source Explorer  Properties  Console ×  Coverage
<terminated> DemoMain [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (12-Dec-2023, 3:59:01 pm – 3:59:02 pm) [pid: 15476]
com.spring.javaconfig.Student@41e36e46
i am reading book
```

INjecting dependencies   : -

prac.xml   Student.java ×   DemoMain.java   Javaconfig.java   Samosa.java

```java
1  package com.spring.javaconfig;
2
3  import org.springframework.stereotype.Component;
4
5
6  public class Student {
7      private Samosa samo;
8
9
10     public Samosa getSamo() {
11         return samo;
12     }
13
14
15     public void setSamo(Samosa samo) {
16         this.samo = samo;
17     }
18
19
20
21     public Student(Samosa samo) {
22         super();
23         this.samo = samo;
24     }
25
26
27     public void show()
28     {
29         this.samo.display();
30         System.out.println("i am reading book");
31     }
32
33 }
34
```

 Servers   Terminal   Data Source Explorer   Properties   Console ×   Coverage

<terminated> DemoMain [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (12-Dec-2023, 4:07:06 pm – 4:07:07 pm) [pid: 17092]
com.spring.javaconfig.Student@393671df
i am eating Samosa....
i am reading book

prac.xml   Student.java   DemoMain.java   Javaconfig.java   Samosa.java ×

```java
1  package com.spring.javaconfig;
2
3  public class Samosa {
4      public void display()
5      {
6          System.out.println("i am eating Samosa....");
7      }
8
9  }
10
```

Project Run Window Help

| prac.xml | Student.java | DemoMain.java × | Javaconfig.java | Samosa.java |

```java
1  package com.spring.javaconfig;
2  import org.springframework.context.ApplicationContext;
3  import org.springframework.context.support.ClassPathXmlApplicationContext;
4  import org.springframework.context.annotation.AnnotationConfigApplicationContext;
5  public class DemoMain {
6
7      public static void main(String[] args) {
8          ApplicationContext con=new AnnotationConfigApplicationContext(Javaconfig.class);
9          Student stu=con.getBean("getstu",Student.class);
10         System.out.println(stu);
11         stu.show();
12
13     }
14
15 }
16
```

Servers Terminal Data Source Explorer Properties Console × Coverage
<terminated> DemoMain [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (12-Dec-2023, 4:07:06 pm – 4:07:07 pm) [pid: 17092]
```
com.spring.javaconfig.Student@393671df
i am eating Samosa....
i am reading book
```

earch Project Run Window Help

| prac.xml | Student.java | DemoMain.java | Javaconfig.java × | Samosa.java |

```java
1  package com.spring.javaconfig;
2
3  import org.springframework.context.annotation.Bean;
4  import org.springframework.context.annotation.ComponentScan;
5  import org.springframework.context.annotation.Configuration;
6
7  @Configuration
8
9
10 public class Javaconfig {
11     @Bean
12     public Samosa getsamo()
13     {
14         return new Samosa();
15     }
16     @Bean
17     public Student getstu()
18     {
19         Student stu=new Student(getsamo());
20         return stu;
21     }
22
23 }
24
```

As we have saw that we are specifying methodname of Bean in getbeans method to inject dependency but we can specify name by ourself also just we have to add parameter in @Bean annotation

@Bean(name={"om","shubh","anu"}