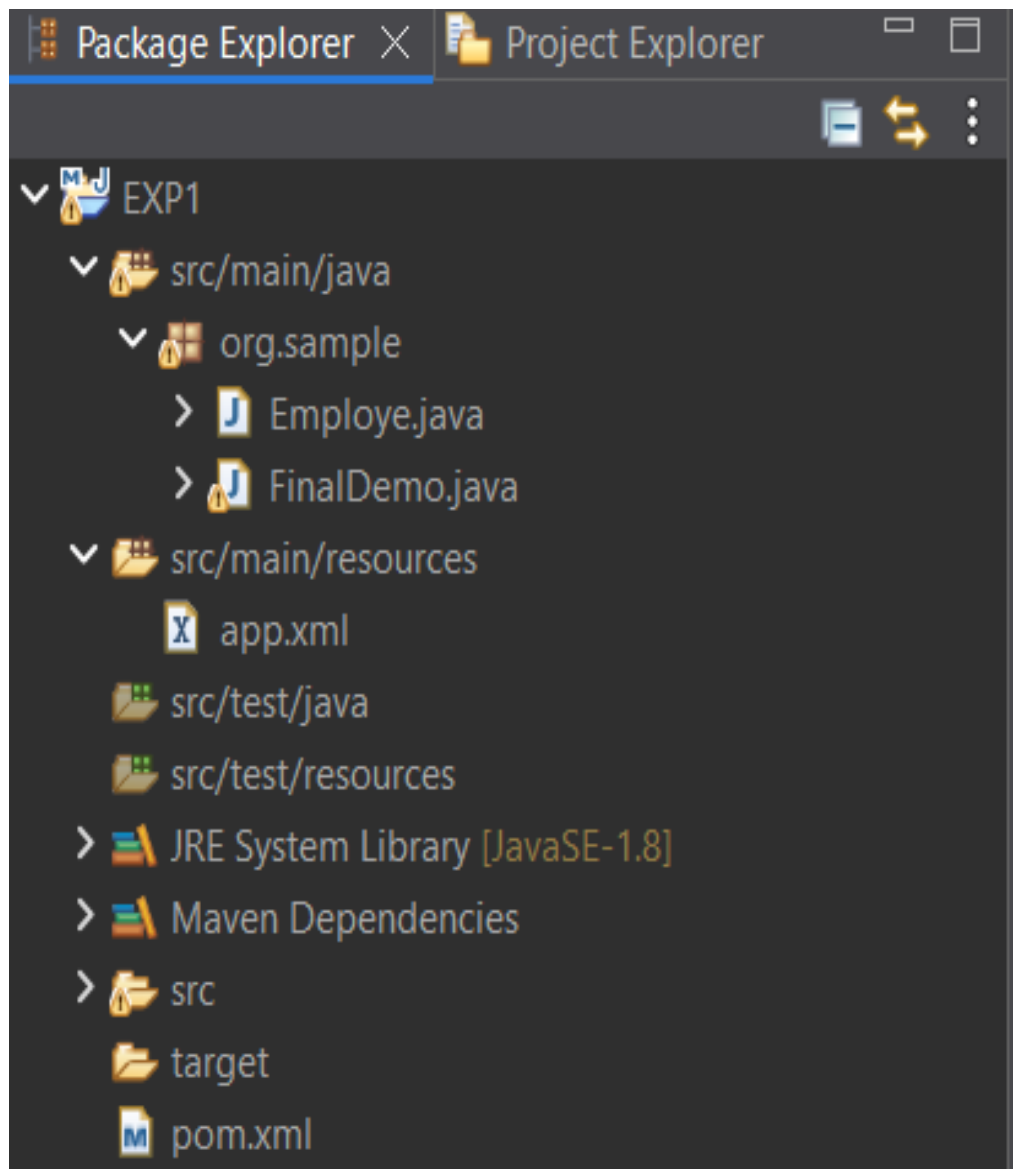


## 1.Aim: Basic Spring Application with Constructor Injection.

### Structure:



## Employee.java

```
package com.exam;

public class Employee {
    int eno;
    String ename;
    public Employee(int eno, String ename) {
        super();
        this.eno = eno;
        this.ename = ename;
    }
    public Employee(int eno) {
        super();
        this.eno = eno;
    }
    @Override
    public String toString() {
        return "Employee [eno=" + eno + ", ename=" + ename + "];"
    }
    public void read() {
        System.out.println("This is created using parameterised constructor  
to create employee class");
    }
}
```

## Mainmethod.java

```
package com.exam;
```

```
import org.springframework.context.ApplicationContext;
```

```
import
```

```
org.springframework.context.support.ClassPathXmlApplicationContext;
```

```
public class Mainmethod {
```

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

```
        ApplicationContext context=new  
ClassPathXmlApplicationContext("rare.xml");
```

```
        Employee e1 = context.getBean("a", Employee.class);
```

```
        System.out.println(e1);
```

```
    }
```

```
}
```

## **rare.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
        https://www.springframework.org/schema/beans/spring-beans.xsd">
    <bean id="a" class="com.exam.Employee">
        <constructor-arg type="int" value="123"></constructor-arg>
        <constructor-arg type="String" value="hani"></constructor-arg>
    </bean>
</beans>
```

## Pom.xml

```
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
https://maven.apache.org/xsd/maven-4.0.0.xsd">

    <modelVersion>4.0.0</modelVersion>

    <groupId>AAA</groupId>

    <artifactId>PG2</artifactId>

    <version>0.0.1-SNAPSHOT</version>

    <dependencies>

        <dependency>

            <groupId>org.springframework</groupId>

            <artifactId>spring-core</artifactId>

            <version>7.0.0-M7</version>

        </dependency>

        <!-- https://mvnrepository.com/artifact/org.springframework/spring-context -->

        <dependency>

            <groupId>org.springframework</groupId>

            <artifactId>spring-context</artifactId>

            <version>7.0.0-M7</version>

        </dependency>

    </dependencies>

</project>
```

## Output:

The screenshot shows the Eclipse IDE's console window. The top toolbar includes icons for Problems, Javadoc, Declaration, Console (selected), Run, Stop, Refresh, Copy, Paste, Print, Find, Replace, Save All, Undo, Redo, and Help. The console title bar reads "<terminated> Mainmethod [Java Application] C:\eclipse-1\sts-4.31.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86\_64.jre\bin\java.exe". The main area of the console displays two lines of text:

```
Employee [eno=123, ename=hani]  
This is created using parameterised constructor to create employee class
```

The bottom status bar shows "Writable", "Smart Insert", and the time "13 : 19 : 44".

<terminated> Mainmethod [Java Application] C:\eclipse-1\sts-4.31.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86\_64.jre\bin\java.exe  
Employee [eno=123, ename=hani]  
This is created using parameterised constructor to create employee class

Writable Smart Insert 13 : 19 : 44

## 2.Aim: Spring Application with Setter Injection.

### Employee.java

```
package org.sample;

public class Employee {

    int eno;

    String ename;

    public int getEno() {

        return eno;

    }

    public void setEno(int eno) {

        this.eno = eno;

    }

    public String getEname() {

        return ename;

    }

    public void setEname(String ename) {

        this.ename = ename;

    }

    @Override

    public String toString() {

        return "Employee [eno=" + eno + ", ename=" + ename + "]";

    }

}
```

## FinalDemo.java

```
package org.sample;

import org.springframework.context.ApplicationContext;
import
org.springframework.context.support.ClassPathXmlApplicationContext;

public class FinalDemo {

    public static void main(String[] args) {
        // TODO Auto-generated method stub

        ApplicationContext context=new
ClassPathXmlApplicationContext("app.xml");

        Employe e2=context.getBean("e",Employe.class);
        System.out.println(e2);

    }

}
```



## **app.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
       https://www.springframework.org/schema/beans/spring-beans.xsd">
  <bean id="e" class="org.sample.Employe">
    <property name="eno" value="4334"></property>
    <property name="ename" value="aditya"></property>

  </bean>
</beans>
```

## **pom.xml**

```
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
https://maven.apache.org/xsd/maven-4.0.0.xsd">

    <modelVersion>4.0.0</modelVersion>

    <groupId>Org</groupId>

    <artifactId>Lab-3</artifactId>

    <version>0.0.1-SNAPSHOT</version>

    <dependencies>

        <!-- https://mvnrepository.com/artifact/org.springframework/spring-core --
        >
        <dependency>

            <groupId>org.springframework</groupId>

            <artifactId>spring-core</artifactId>

            <version>7.0.0-M7</version>

        </dependency>

        <!-- https://mvnrepository.com/artifact/org.springframework/spring-context -
        ->
        <dependency>

            <groupId>org.springframework</groupId>

            <artifactId>spring-context</artifactId>

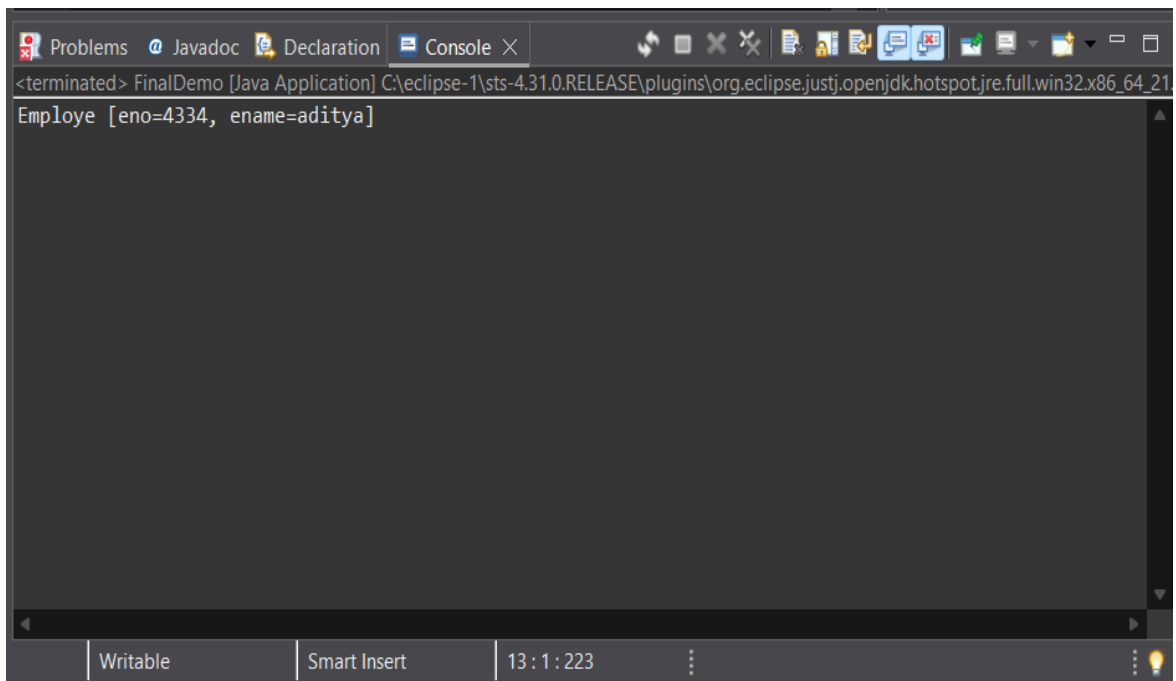
            <version>7.0.0-M7</version>

        </dependency>

    </dependencies>

</project>
```

## OUTPUT:



The screenshot shows the Eclipse IDE's Console window. The title bar includes tabs for 'Problems', 'Javadoc', 'Declaration', and 'Console'. The console output displays the message: `<terminated> FinalDemo [Java Application] C:\eclipse-1\sts-4.31.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21` followed by `Employee [eno=4334, ename=aditya]`. The status bar at the bottom indicates 'Writable', 'Smart Insert', and the cursor position '13 : 1 : 223'.

```
<terminated> FinalDemo [Java Application] C:\eclipse-1\sts-4.31.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21
Employee [eno=4334, ename=aditya]
```

### 3. Aim: Spring Auto Scanning Example

#### **FirstStudent.java**

```
package org.example;

import org.springframework.stereotype.Component;

@Component

public class FirstStudent {

    @Override

    public String toString() {

        return "My name is Hani, I'm studying MCA II year";

    }

}
```

#### **SecondStudent.java**

```
package org.example;

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

@Component

public class SecondStudent {

    @Autowired

    FirstStudent f;

    @Override

    public String toString() {

        return "My name is Bhavya, I'm studying MBA II year at Aditya University" +f;}

}
```

## FinalStudent.java

```
package org.example;

import org.springframework.context.ApplicationContext;
import
org.springframework.context.support.ClassPathXmlApplicationContext;

public class FinalStudent {

    public static void main(String[] args) {
        ApplicationContext
context=newClassPathXmlApplicationContext("config1.xml");
        SecondStudent s=(SecondStudent)context.getBean("secondStudent");
        System.out.println(s);
    }

}
```

## Config1.xml

```
<beans xmlns="http://www.springframework.org/schema/beans"
       xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
       xmlns:context="http://www.springframework.org/schema/context"
       xsi:schemaLocation="http://www.springframework.org/schema/beans
                           http://www.springframework.org/schema/beans/spring-beans-2.5.xsd
                           http://www.springframework.org/schema/context
                           http://www.springframework.org/schema/context/spring-context-2.5.xsd">
    <context:component-scan base-package="org.example">
    </context:component-scan>
</beans>
```

## Pom.xml

```
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
https://maven.apache.org/xsd/maven-4.0.0.xsd">

    <modelVersion>4.0.0</modelVersion>

    <groupId>Org</groupId>

    <artifactId>Lab-3</artifactId>

    <version>0.0.1-SNAPSHOT</version>

    <dependencies>

        <!-- https://mvnrepository.com/artifact/org.springframework/spring-core --
        >
        <dependency>

            <groupId>org.springframework</groupId>

            <artifactId>spring-core</artifactId>

            <version>7.0.0-M7</version>

        </dependency>

        <!-- https://mvnrepository.com/artifact/org.springframework/spring-context -
        ->
        <dependency>

            <groupId>org.springframework</groupId>

            <artifactId>spring-context</artifactId>

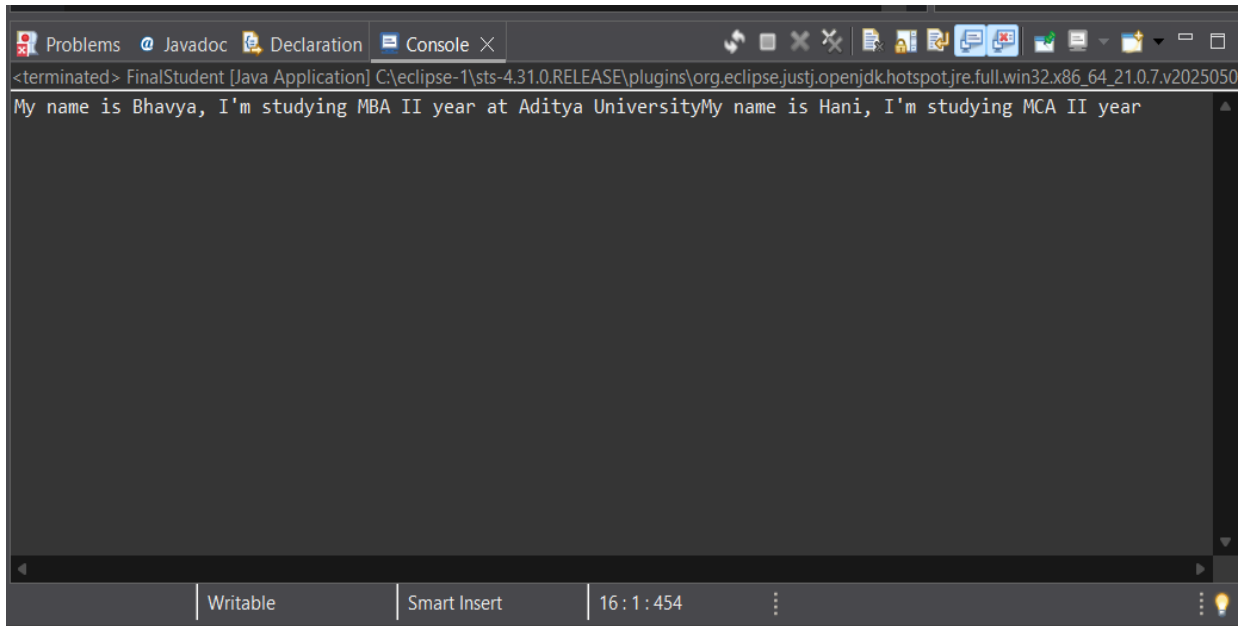
            <version>7.0.0-M7</version>

        </dependency>

    </dependencies>

</project>
```

## OUTPUT:



The screenshot shows the Eclipse IDE's console window. The title bar includes tabs for 'Problems', 'Javadoc', 'Declaration', and 'Console'. The console text area displays the following output:

```
<terminated> FinalStudent [Java Application] C:\eclipse-1\sts-4.31.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.7.v20250505  
My name is Bhavya, I'm studying MBA II year at Aditya UniversityMy name is Hani, I'm studying MCA II year
```

The status bar at the bottom indicates the current state: 'Writable', 'Smart Insert', and the time '16:1:454'.