

Ex 9	Java MVC Framework
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Aim

To create a Java Web application using MVC framework.

Definitions

Web Application

A web application is a software program that runs on a remote server and is accessed via a web browser over the internet, without needing to be installed on a user's device. It is designed for user interaction, allowing users to send and receive data to perform tasks like online shopping, managing documents, or using social media.

Java Framework

A Java framework is a collection of pre-written code, classes, and tools that provides a structure for building Java applications, saving developers from writing common code from scratch. Popular examples include the **Spring framework** for enterprise applications, **Hibernate** for database interaction, and the **Java Collections Framework** for managing data structures.

MVC

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Procedure

Open NetBeans IDE.

To create a Project go to File Menu → choose New Project → choose Java Web from Categories → choose Web Application from Projects → click next → specify the project name as MVC → Click Next → Click Next → click Finish.

Right Click on Source Packages Folder → new → Java Class → specify the class name as Student → click finish → type the following codes:

Student.java

```
// Student.java
```

```
public class Student {  
    private String rollNo;  
    private String name;  
  
    public Student(String rollNo, String name) {  
        this.rollNo = rollNo;  
        this.name = name;  
    }  
  
    public String getRollNo() {  
        return rollNo;  
    }  
  
    public void setRollNo(String rollNo) {  
        this.rollNo = rollNo;  
    }  
  
    public String getName() {  
        return name;  
    }  
  
    public void setName(String name) {
```

```
        this.name = name;
    }
}
```

Right Click on Source Packages Folder → new → Java Class → specify the class name as StudentView → click finish → type the following codes:

StudentView.java

```
// StudentView.java
public class StudentView {
    public void printStudentDetails(String studentName, String studentRollNo) {
        System.out.println("Student Details:");
        System.out.println("Name: " + studentName);
        System.out.println("Roll No: " + studentRollNo);
    }
}
```

Right Click on Source Packages Folder → new → Java Class → specify the class name as StudentController → click finish → type the following codes:

StudentController.java

```
// StudentController.java
public class StudentController {
    private Student model;
    private StudentView view;

    public StudentController(Student model, StudentView view) {
        this.model = model;
        this.view = view;
    }

    public void setStudentName(String name) {
        model.setName(name);
    }
}
```

```

    }

    public String getStudentName() {
        return model.getName();
    }

    public void setStudentRollNo(String rollNo) {
        model.setRollNo(rollNo);
    }

    public String getStudentRollNo() {
        return model.getRollNo();
    }

    public void updateView() {
        view.printStudentDetails(model.getName(), model.getRollNo());
    }
}

```

Right Click on Source Packages Folder → new → Java Class → specify the class name as MVCDemo → click finish → type the following codes:

MVCDemo.java

```

// MVCDemo.java

public class MVCDemo {
    public static void main(String[] args) {
        // Create a Model
        Student student = new Student("123", "John Doe");

        // Create a View
        StudentView view = new StudentView();
    }
}

```

```

// Create a Controller and link Model and View
StudentController controller = new StudentController(student, view);

// Display initial student details
controller.updateView();

// Update student details through the Controller
controller.setStudentName("Jane Smith");
controller.setStudentRollNo("456");

// Display updated student details
controller.updateView();
}
}

```

Right click on MVCDemo.java → choose Run File.

Output

run:

Student Details:

Name: John Doe

Roll No: 123

Student Details:

Name: Jane Smith

Roll No: 456

BUILD SUCCESSFUL (total time: 0 seconds)

Result

Thus, a Java Web application has been developed and deployed using MVC framework.