



LEARN JAVA DESIGN PATTERNS

problem solving approaches

Design Patterns Tutorial

- Design Patterns - Home
- Design Patterns - Overview
- Design Patterns - Factory Pattern
- Abstract Factory Pattern
- Design Patterns - Singleton Pattern
- Design Patterns - Builder Pattern
- Design Patterns - Prototype Pattern
- Design Patterns - Adapter Pattern
- Design Patterns - Bridge Pattern
- Design Patterns - Filter Pattern
- Design Patterns - Composite Pattern
- Design Patterns - Decorator Pattern
- Design Patterns - Facade Pattern
- Design Patterns - Flyweight Pattern
- Design Patterns - Proxy Pattern
- Chain of Responsibility Pattern
- Design Patterns - Command Pattern
- Design Patterns - Interpreter Pattern
- Design Patterns - Iterator Pattern
- Design Patterns - Mediator Pattern
- Design Patterns - Memento Pattern
- Design Patterns - Observer Pattern
- Design Patterns - State Pattern
- Design Patterns - Null Object Pattern
- Design Patterns - Strategy Pattern
- Design Patterns - Template Pattern
- Design Patterns - Visitor Pattern
- Design Patterns - MVC Pattern**
- Business Delegate Pattern
- Composite Entity Pattern
- Data Access Object Pattern
- Front Controller Pattern
- Intercepting Filter Pattern
- Service Locator Pattern
- Transfer Object Pattern

Design Patterns Resources

- Design Patterns - Questions/Answers

Design Patterns - MVC Pattern

[Previous Page](#)

[Next Page](#)

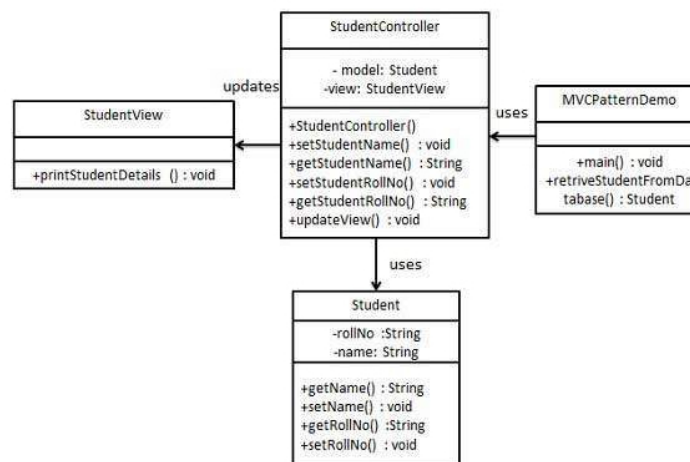
MVC Pattern stands for Model-View-Controller Pattern. This pattern is used to separate application's concerns.

- **Model** - Model represents an object or JAVA POJO carrying data. It can also have logic to update controller if its data changes.
- **View** - View represents the visualization of the data that model contains.
- **Controller** - Controller acts on both model and view. It controls the data flow into model object and updates the view whenever data changes. It keeps view and model separate.

Implementation

We are going to create a *Student* object acting as a model. *StudentView* will be a view class which can print student details on console and *StudentController* is the controller class responsible to store data in *Student* object and update view *StudentView* accordingly.

MVCPatternDemo, our demo class, will use *StudentController* to demonstrate use of MVC pattern.



Step 1

Create Model.

Student.java

```

public class Student {
    private String rollNo;
    private String 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;
    }
}
    
```

Step 2

- Design Patterns - Quick Guide
- Design Patterns - Useful Resources
- Design Patterns - Discussion

Selected Reading

- UPSC IAS Exams Notes
- Developer's Best Practices
- Questions and Answers
- Effective Resume Writing
- HR Interview Questions
- Computer Glossary
- Who is Who

Step 2

Create View.

StudentView.java

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

Step 3

Create Controller.

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());
    }
}
```

Step 4

Use the *StudentController* methods to demonstrate MVC design pattern usage.

MVCPatternDemo.java

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

        //fetch student record based on his roll no from the database
        Student model = retrieveStudentFromDatabase();

        //Create a view : to write student details on console
        StudentView view = new StudentView();

        StudentController controller = new StudentController(model, view);

        controller.updateView();

        //update model data
        controller.setStudentName("John");

        controller.updateView();
    }

    private static Student retrieveStudentFromDatabase(){
        Student student = new Student();
        student.setName("Robert");
        student.setRollNo("10");
        return student;
    }
}
```

Step 5

Verify the output.

```
Student:  
Name: Robert  
Roll No: 10  
Student:  
Name: John  
Roll No: 10
```

[⏪ Previous Page](#) [🖨 Print Page](#)

[Next Page ⏩](#)



[🌐 About us](#)

[✳ Terms of use](#)

[🛡 Privacy Policy](#)

[❓ FAQ's](#)

[👉 Helping](#)

[📍 Contact](#)

© Copyright 2020. All Rights Reserved.