Dt : 29/12/2023

**imp*

Web Architecture Models:(Web Application Architectures)

=>Two types of development models are used in Java for Web applications,and these models are classified based on the different approaches used to develop Web applications.

These models are:

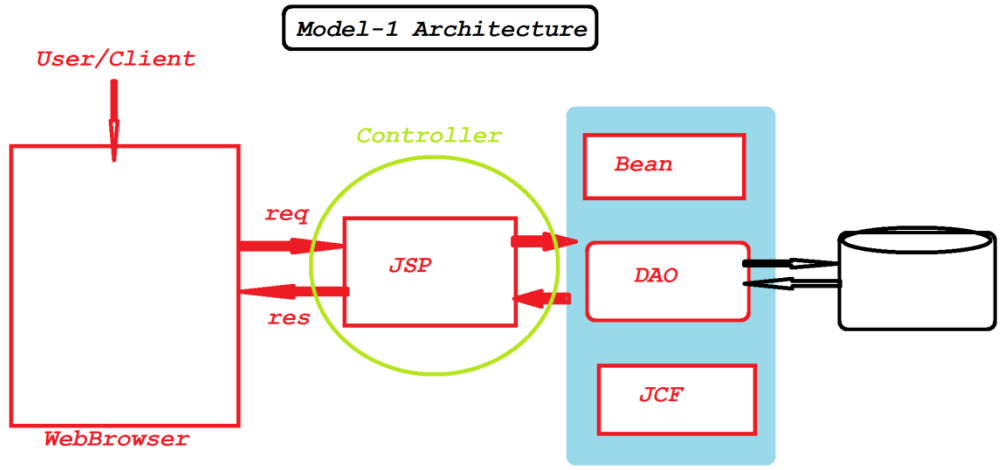
1. Model-1 Architecture

2. Model-2 Architecture

1. Model-1 Architecture:

The Model-1 architecture was the first development model used to develop Web applications and this model uses JSP to design applications and, which is responsible for all the activities and functionalities provided by the application.

Diagram:



Limitations of the Model-1 Architecture:

(i)Applications are inflexible and difficult to maintain.

A single change in one page may cause changes in other pages, leading to unpredictable results.

(ii)Involves the developer at both the page development and the business logic implementation stages.

(iii)Increases the complexity of a program with the increase in the size of the JSP page.

Exp:

JSP_App1

JSP_App2

JSP_App3

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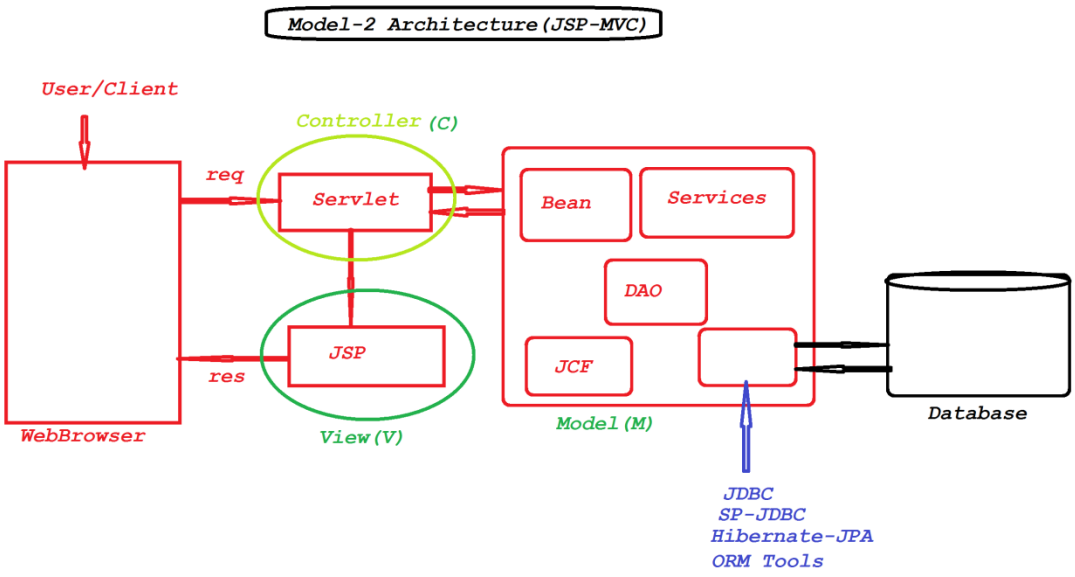
2. Model-2 Architecture:

=>The draw backs in the Model-1 architecture led to the introduction of a new model called Model-2.

=>The Model-2 architecture was targeted at overcoming the drawbacks of Model-1 and helping developers to design more powerful Web applications and this Model-2 architecture is based on the MVC design model.

Diagram:



=>MVC Stands for Model View Controller.

Model: Represents enterprise data and business rules that specify how data is accessed and updated,and which is generally implemented by using JavaBeans.

View: Shows the contents of a Model.The View component accesses enterprise data through the Model component and specifies how that data should be presented and this View Component is designed by JSP.

Controller: Receives HTTP requests. The Controller component receives requests from a client, determines the business logic to be performed,and delegates the responsibility for producing the next phase of the user interface to an appropriate view component. The Controller has complete control over each view, implying that any change in the Model component is immediately reflected in all the Views of an application.

The Controller component is implemented by servlets.

Advantages of Model-2 Architecture:

(i)Allows use of reusable software components to design the Business logic. Therefore, these components can be used in the business logic of other applications.

(ii)Offers great flexibility to the presentation logic, which can be modified without effecting the business logic.

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faq:

define Error Code?

=>The numeric number which defines the type of error occured in the application

is known as Error Code

=>when we want to terminate the web application,then we generate Error_code with

msg and terminate the application.

=>HttpServletResponse will provide fields to represent Error_codes

Ex:

```
public static final int SC_CONTINUE;

public static final int SC_SWITCHING_PROTOCOLS;

public static final int SC_OK;

public static final int SC_CREATED;

public static final int SC_ACCEPTED;

   ...
```

=>we use sendError() method from HttpServletResponse to send Error_code with msg

Methods Signatures:

```
public abstract void sendError

  (int, java.lang.String) throws java.io.IOException;

public abstract void sendError(int) throws java.io.IOException;
```

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faq:

define sendRedirect() method?

=>sendRedirect() method is from HttpServletResponse and which is used to send

response to another WebApplication executing on same server or different server.

Method Signature:

public abstract void sendRedirect(java.lang.String)

throws java.io.IOException;

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