

DRE ✦ CREATIVE



JSF Lifecycle

Actions, Events, Phases, and Responses

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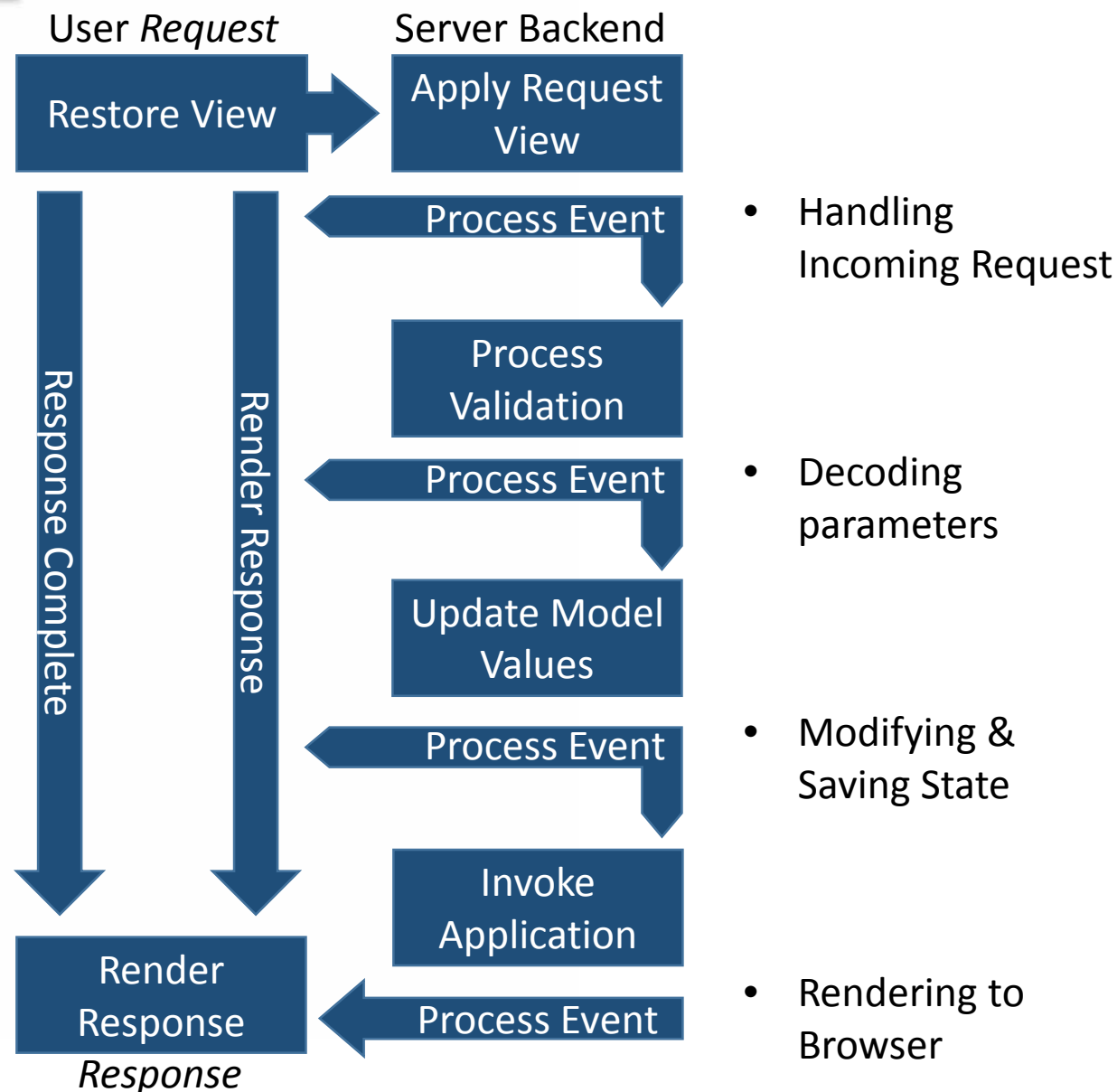
Course Objectives:

- o Identify six phases of the JSF cycle.
- Recognize the variance of :
 - Response Complete
 - Render Response

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Java Server Faces Application lifecycle refers to initiating “request” (user frontend) and the progression of actions and events that effect the rendered (server backend) “response” at constructive phases of the overall cycle.

SYSTEM EVENTS – are object based and can occur at any phase.



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Response Complete

FacesContext.responseComplete

Is used when the response (users view) is being controlled in the browser by a web service.

A backing bean action method using ajax (javascript/XML).

Note: response complete can be active at any phase (restore view exception). It is independent of the backend server.

User Request

Restore View

Server Backend

Apply Request View

Process Event

Process Validation

Process Event

Update Model Values

Process Event

Invoke Application

Process Event

Response Complete

Render Response

Render Response
Response

Render Response

FacesContext.renderResponse will move forward to the render response phase immediately bypassing overall process.

This action is triggered by :

- Initial request
- Validation errors
- Conversion errors

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When a request is made by an action such as selecting a button or link ; JSF implements **Restore view** phase.

The view is built with components (HTML).

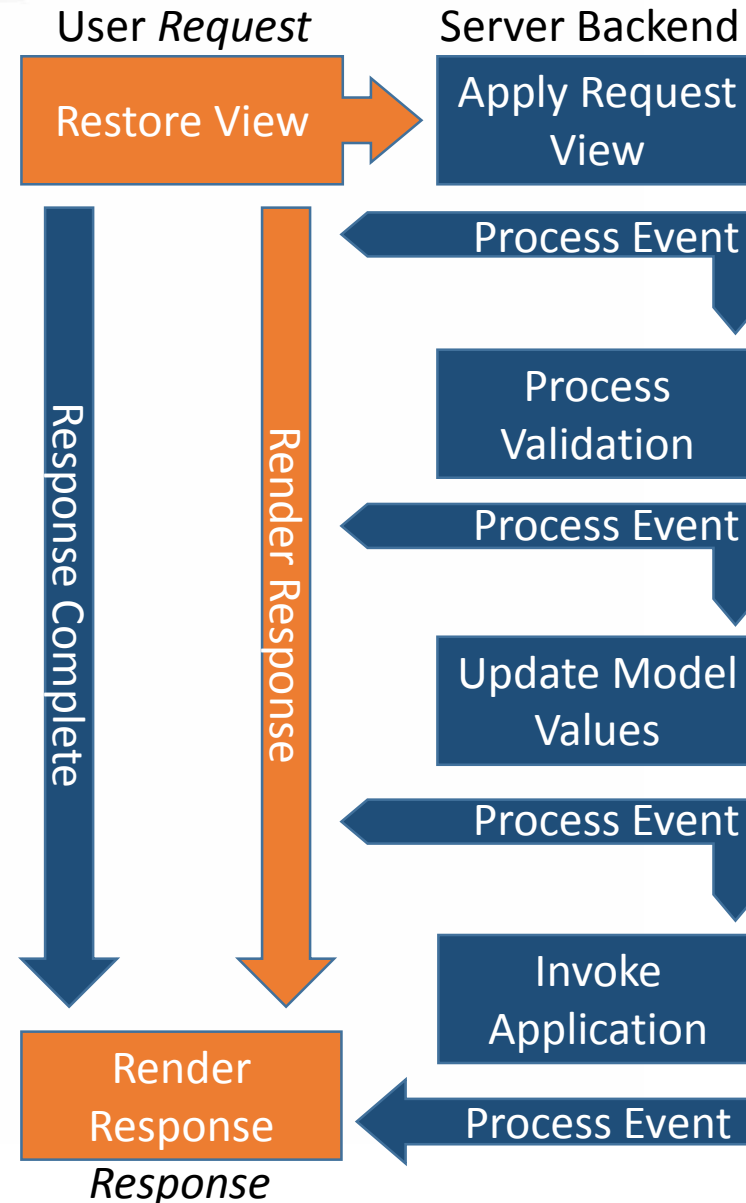
<h:head>

<h:body>

<h:form>

<h:inputText>

<h:commandButton>



For each component in the view (browser), a server side component is created or retrieved (Tree). These component tags at this phase will post at the **render response** phase.

FacesContext instance stores all information to process a request.

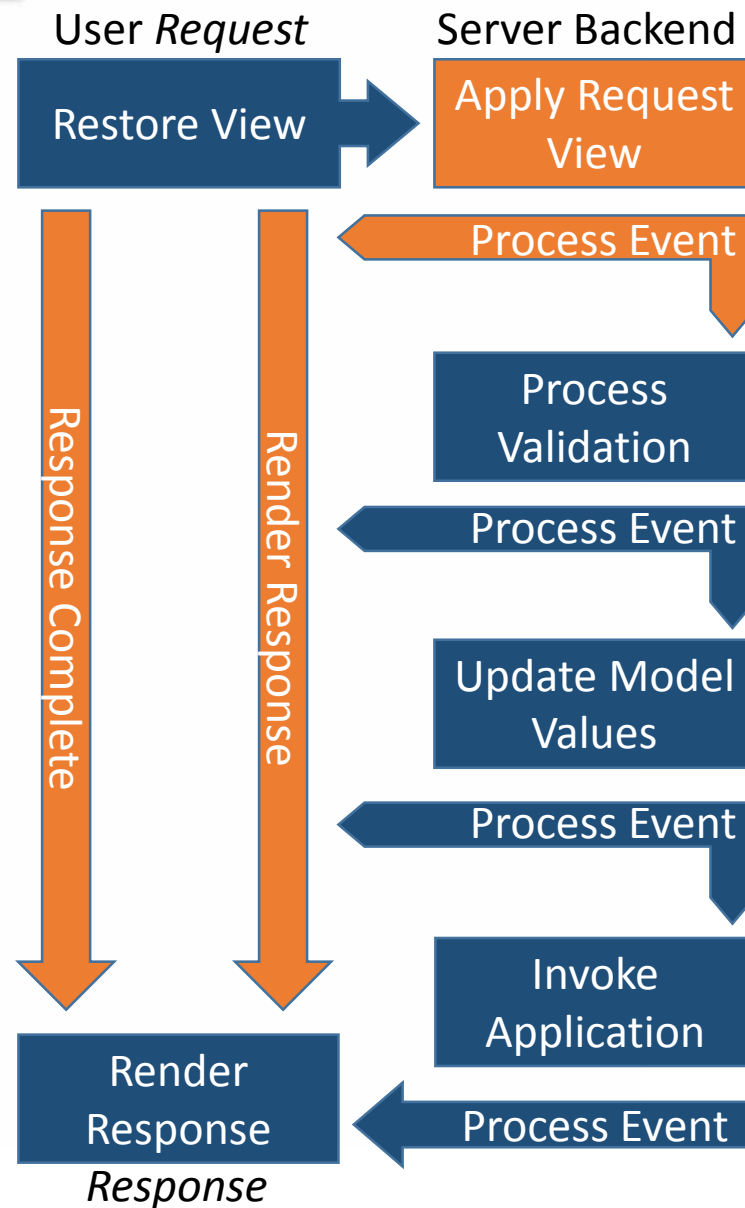
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If the application needs to redirect to a different web application resource or generate a response that does not contain any JavaServer Faces components, it can call the `FacesContext.responseComplete` method.

User name:

Password:

**ACTION EVENTS or
VALUE-CHANGE EVENTS**



Once component tree is posted; the components will extract new values using its decode (`processDecodes()`) method and apply them to the tree.

If any decode methods or event listeners have called the render response method on the current `FacesContext` instance, JSF implementation skips directly to Render Response phase.

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All value inputs are validated:

```
<h:inputText id="pgriffen"
required="true"
```

```
validator=
"#{usernamebean.type}"/>
```

User name: pgriffin

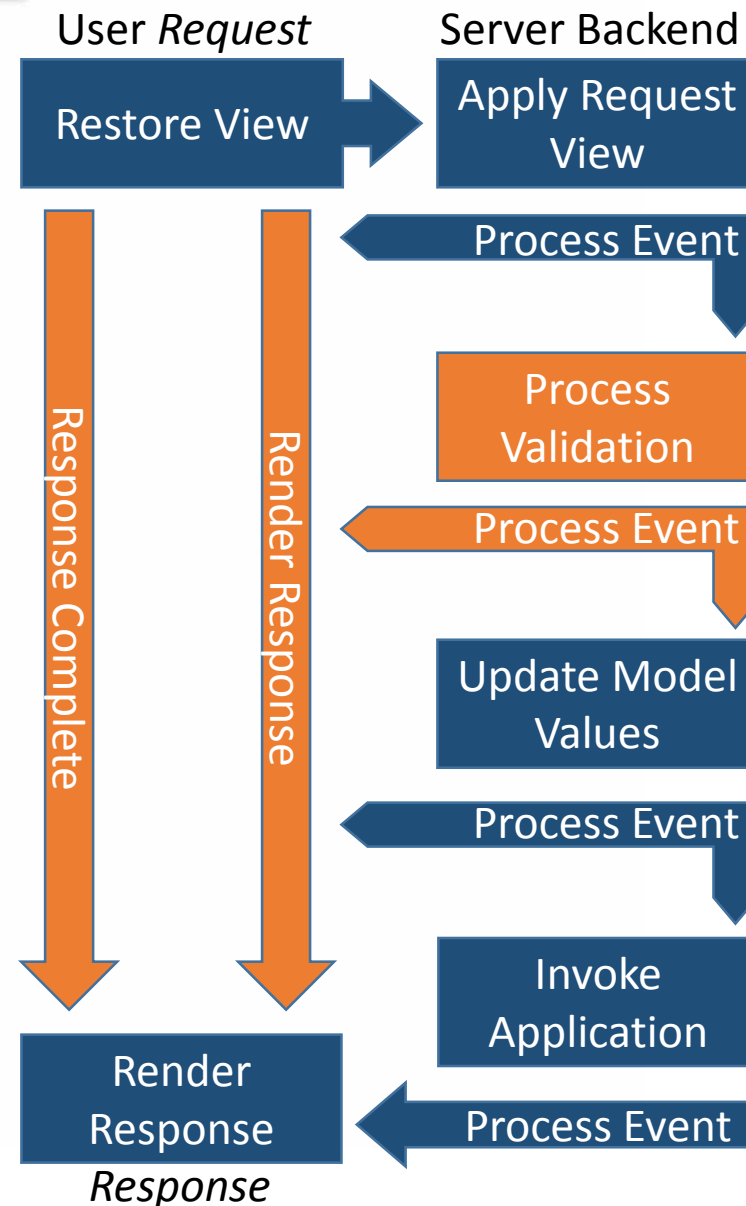
Password:

Sign in

```
<h:inputText id="password"
required="true"
```

```
validator=
"#{passwordbean.password}"/>
```

VALUE-CHANGE EVENTS



During this stage the JSF implementation processes all validators on the components in the tree by using `validate(bean)`.

If entered value is invalid, or conversion fails error message will display at **Render Response** stage via *FacesContext* instance.

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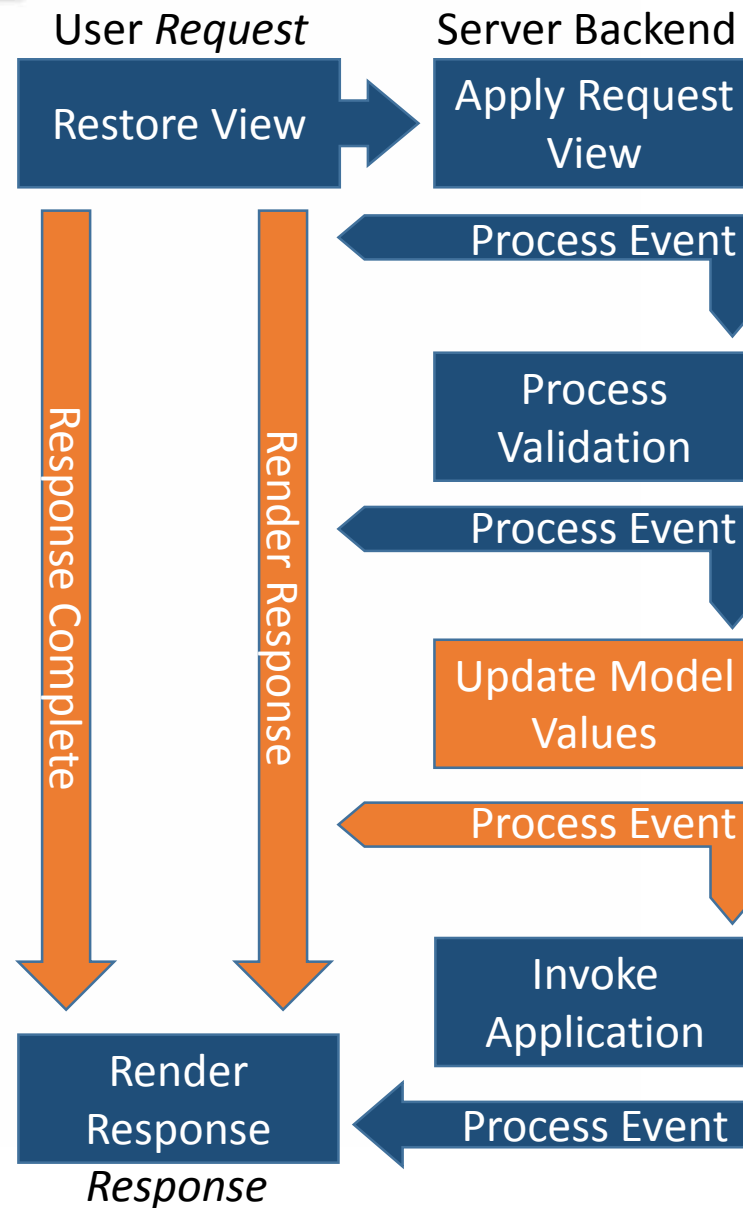
All value inputs are updated:

```
<h:inputText id="pgriffen"  
required="true"  
validator=  
"#{usernamebean.type}"/>
```

User name: pgriffin

Password: ●●●●●●

Sign in



After validation is complete values entered will be updated to the tree.

If entered value is invalid, or conversion fails error message will display at **Render Response** stage via *FacesContext* instance.

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User actions invoked:

```
<h:inputText id="pgriffen"
required="true"
```

```
<h: commandButton value =
"submit" action=
"#{logon.type}"/>
```

User name: pgriffin

Password:

Sign in

ACTION EVENTS

User Request

Restore View

Server Backend

Apply Request
View

Process Event

Process
Validation

Process Event

Update Model
Values

Process Event

Invoke
Application

Process Event

Response Complete

Render Response

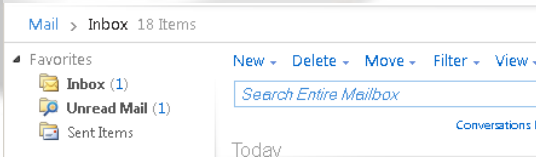
Render
Response
Response

Values are updated and submit button is selected invoking application such as submitting a form or linking to another page to render response to view.

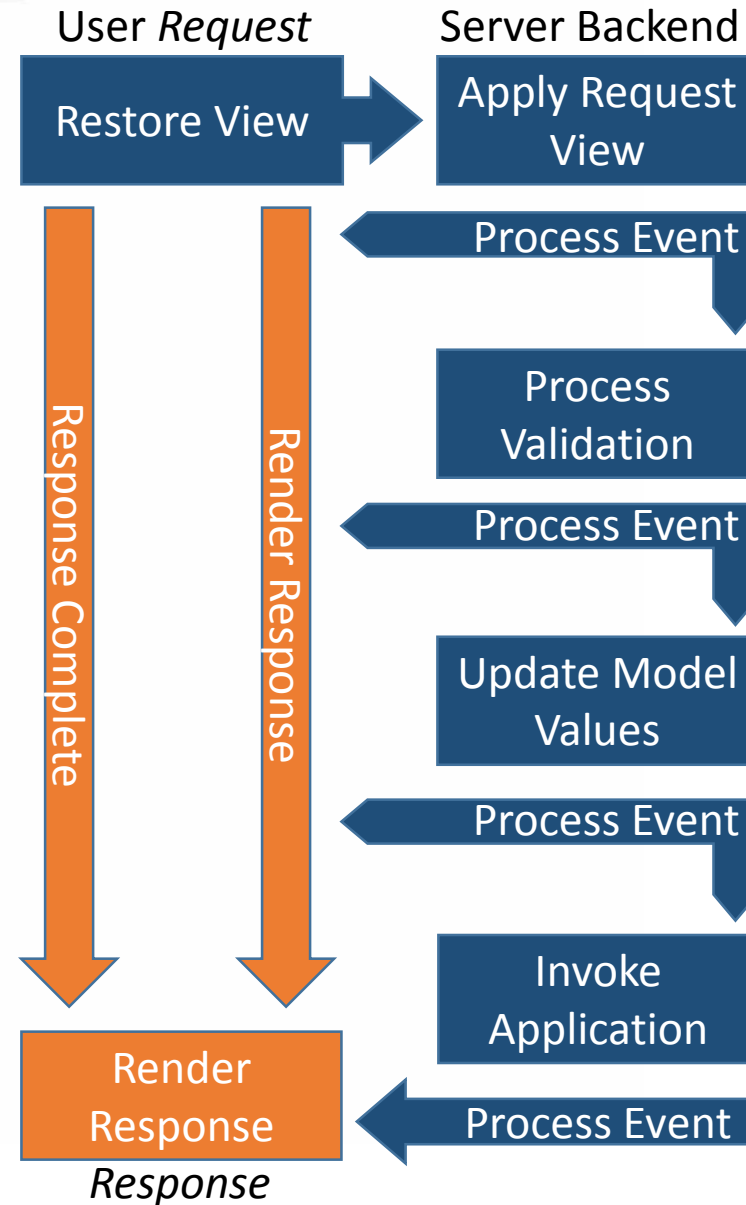
If entered value is invalid, or conversion fails error message will display at **Render Response** stage via *FacesContext* instance.

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During this phase, Java Server Faces builds the view and delegates authority to the appropriate resource for rendering the pages.



After the content of the view is rendered, the state of the response is saved so that future requests can access it. The saved state is available to the Restore View phase.

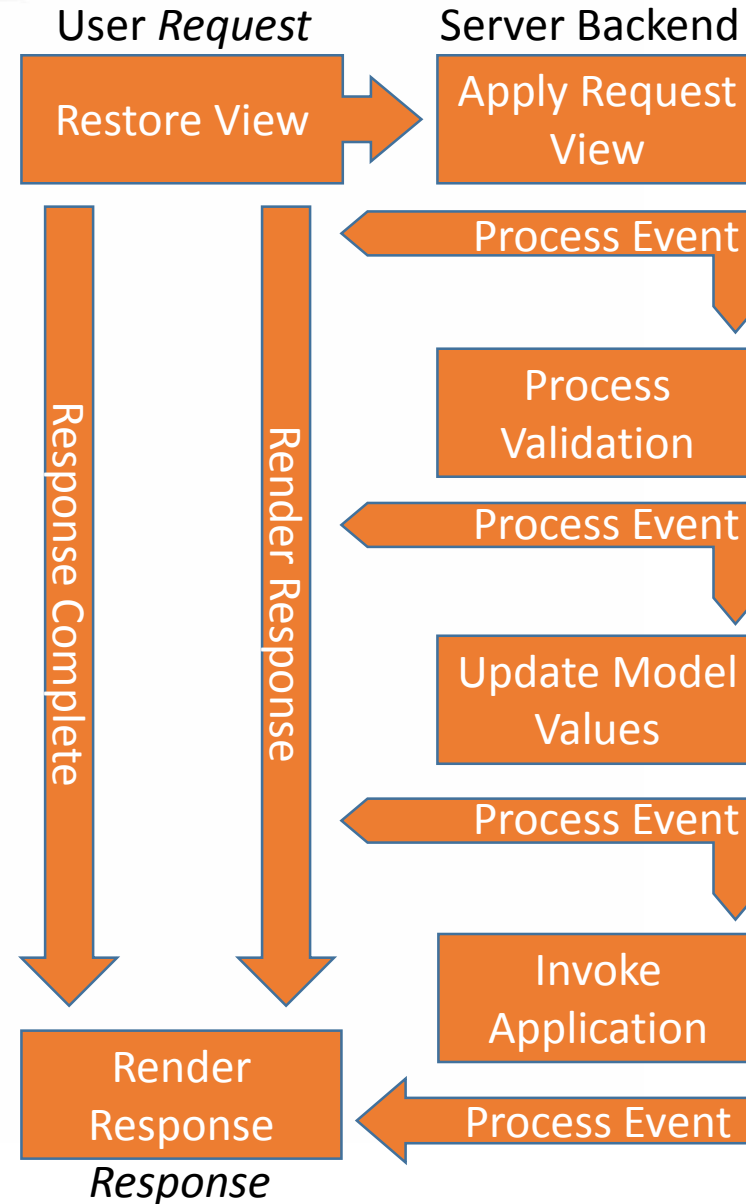


If the request is a postback and errors were encountered during the process, the original page is rendered again.

If the pages contain h:message or h:messages tags, any queued error messages are displayed on the page.

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Upon completion of this introductory course of JSF life Cycle, the participant will be able to identify the six phases of the life cycle and the two possible response generated by JSF cycle.



The participant will identify the server and browser aspects of the cycle.